RELATIONAL EDUCATION

Erika Twani[1] and Julio Fontan[2]

The Fontan Relational Education, or simply Relational Education (RE), is a personalized pedagogy model proven to improve student academic performance. Two Spanish psychologists Ventura Fontan and his wife Emilia Garcia created it in 1957. They founded the "Centro Psicotécnico" (Psycho-technical Center) in Medellin, Colombia. The center was dedicated to educational investigation, development and experimentation with new teaching methodologies and tools.

In 1985, as a result of their research and implementation of new methodologies, they started the Fontan School of Medellin, which was approved by the Colombian National Ministry of Education as the first innovative school in Colombia. The Relational Education has been self-perfected in the past 60 years, and proves that education can be transformed and that each student can develop his/her dormant potential to a level of excellence.

OVERVIEW OF THE RELATIONAL EDUCATION

Parents/Guardians are constantly looking for a solution for their children that are not advancing in the traditional system. With Relational Education, each student is assessed on their knowledge, interests and abilities and given a personalized learning plan based on that assessment, allowing them to work according to their own **unique learning pace**. The personalized plan and relational learning method engage students, who find meaning in their education and **do not drop out of school**. Students must achieve excellence on every topic, thus **no student fails the year**. Relational Education creates an environment that allows students to work with their educator one-on-one. Our experience demonstrates that students finish their entire grade curriculum 10% quicker while maintaining the excellence level.

Relational Education has excellence as its constant, and time the variable, thus sustaining better outcomes. The question arises: "How long do you allow a student to work on one topic?" Our experience demonstrates that students rarely stray from pacing charts, and in fact, finish their entire curriculum in an average of nine months. For instance, Santa Maria del Rio, a public school in the Cundinamarca region of Colombia, was a bottom underperforming school. After adopting the Relational Education, within 12 months they were a mid-performing school, and today it is the top performing school in its region, increasing enrollment from 100 to 900, with students on the waiting list.

Relational Education allows learners who are having challenges in the traditional education system to perform, as it:

- Creates a one-on-one relationship between each student and educator;
- Offers each student a personalized workstation in a workshop, adhering to class size amendment requirements;

[1] Erika Twani, MBA, CEO of Learning One to One Foundation.

[2] Julio Fontan, President of Learning One to One Foundation.

- Assesses each student on their knowledge, interests and abilities and are given an personalized learning plan based on that assessment;

- Provides each student with an personalized Student Learning Plan that is supported on a technology platform, that utilizes cloud computing, so that students, parents, and educators can access, collaborate, communicate and manage the student's learning plans and projects anytime, anywhere;

- Equips each workshop with the students' educators. The workshop is managed by a counselor who's role of a Learning Coach works with students on their pacing and task management;

- Empowers students by allowing them to be participants in planning their daily, weekly and yearly learning activities. Students understand their strengths and weaknesses, and work on augmenting their strengths, improving their weaknesses, generating self-esteem, freedom, autonomy, and the ability to thrive well beyond the academic arena;

- Requires students to develop a final project and demonstrate to their educators that they have mastered the content and can "relate" that content to their own realities. Traditional Education testing is limited to those required by State and federal laws.

Relational Education has won numerous awards for its innovative pedagogy model. A few of the top awards.

2011: Top Three Most Innovative Schools worldwide, by Microsoft Corporation's Partners in Learning Program;

2010: ICT Maturity Level 5 (highest), by the European Software Institute;

2009: Microsoft Mentor School;

1999: Orden a la Democracia en Grado de Comendador (Democracy Order in the Degree of Commander) from the Colombian House of Representatives. This award was given for the outstanding results achieved in its application in the traditional formal education system and environments of adverse poverty and violence (neighborhoods with sicario [paid assassin] gangs or urban guerrilla);

1994: Recommended by the Colombian Science, Education and Development Mission for the Future of Colombia;

1985: First Education Innovation Initiative approved in Colombia.

RELATIONAL EDUCATION PEDAGOGY MODEL

I. RELATIONAL EDUCATION

Relational Education is a pedagogical model that customizes learning paths for different learners at an individual unique learning pace based on students' abilities and interests. Through the Relational Education model, students will feel stimulated to connect or "relate" everything they learn to their own reality. The process is supported by one-on-one academic guidance and a one-to-one computer system based on cloud (on-line) technology that efficiently orients and engages students, school staff, parents/guardians, counselors, administrators and student achievement, anytime, anywhere.

Relational Education is called "Relational" because students move to the next unit of study, or theme, in all subject areas only when they are able to relate everything they learn to their daily lives and reality, increasing knowledge retention and their chances to succeed academically. Previous experience validates that Relational Education works equally well with students with disabilities, allowing them to perform as any student. Even if students forget the learning process integrated into every unit of study, they will remember how to carry through learning tasks using the recurring, step-by-step learning process found within every unit of study, which emphasize research skills, skill development, and enriching conceptual understandings (e.g., through relating concepts).

Through academic work, students discover the importance in what they do. They learn how to research, and develop intellectual autonomy and creativity. At the same time, they learn to work on projects that require creativity and critical thinking, solve real-world problems, build knowledge, work to achieve

excellence, and to self-assess. They develop work disciplines where they make decisions, are responsible, can plan ahead, manage their own time, and learn how to effectively work in challenging situations.

Students will have opportunities to feel self-empowered, develop the abilities to effectively manage challenges, increase their self-esteem and undergo a process of self-awareness, acceptance and respect. Their social environment allows them to set common goals, develop leadership skills, make group decisions, take responsibility for their groups, and build effective working relationships.

Students can begin their school activities on any day of the year and complete the course at any time. As such, they may take longer or less time depending on their abilities, within the limits established by the government.

i. Model Overview

Students are assessed at the beginning of each school year on their likes and dislikes as it relates to the subject area, learning styles, academic knowledge, and abilities. Educators develop a personalized Student Learning Plan for each student, aligning to grade-level NGSS-CC standards and adapting to a student's learning style. For first-time students experiencing the Relational Education, the primary focus will be on literacy. Reading and writing will potentially empower students to interpret texts and contribute to their own learning, as they become autonomous learners.

Students plan how they will accomplish their daily, weekly and yearly learning activities. Educators provide personalized attention on a one-on-one basis. For every unit of study completed, students are compelled to draw the relationship between topics within a unit of study to their lives, increasing the chances to retain knowledge. Students are allowed to move to the next unit of study only when they master the current unit, through a high degree of excellence. Upon the completion of all units of study, students will begin to work on units found within the curriculum of the subsequent grade level. This avoids stifling their efforts for advancement.

Literacy skills are a consistently focus in each unit of study encountered by the student, as the only way to move forward is understanding, conceptualizing, practicing, and applying what they read to the outside world. Students are encouraged to work with their peers through seeking expertise advice or working in groups on specific topics.

ii. The Learning Experience: Four Basic Competencies

The Relational Education develops four basic competencies: Intellectual, Personal, Social, and Emotional.

1. Intellectual Competencies

Assessing the student's ability to learn and how it occurs, the Educator develops a personalized Student Learning Plan. The students' abilities, interests, expectations, learning styles, and their cognitive processes, determine their learning activities. This plan also considers the educational requirements as required by State law.

By using their natural learning abilities and following a normal process to develop their autonomy, students acquire the necessary content from each subject. Together with their

Educator, students discuss learning tasks, seek out information and are encouraged to further their knowledge through inquiry-based learning. They discover the purpose for their learning as they learn information in a meaningful context as they respond to essential questions. Students work with the material until a level of excellence has been achieved, allowing them to continue on to the next unit of study, or theme.

2. Personal Competencies

Together with their Educators, students learn to make decisions and accept the consequences of their decisions. This makes them responsible and capable of evolving as they decide how to build their daily, weekly and monthly learning activities. This corresponds to their personal goals, while collaborating with their educators on dates to submit projects and determine the completion of the course. During this process, students develop autonomy while developing organizational skills.

3. Socio-emotional Competencies

The workshop, known in the traditional education system as a "classroom," is the environment in which students do their work. They set goals, assume complementary roles, evaluate their learning process and transform their learning environment together with their educators. Students learn to collaborate, develop leadership skills and solidarity. They are recognized for their strengths; and learn to be committed to their community.

Students discover their limits, allowing them to develop the reality principle while increasing their self-esteem. By projecting themselves in time and adding value and meaning to their work, students discover the importance and the meaning of their own life.

With a clear vision of educational responsibilities, their purpose within their community, or their reality, and abilities, students believe they add value to today's society, regardless of their grade or age. Students build their skills and can collaborate to solve real-world problems. Students' belief in innovation and productivity, which have a direct impact on the economic and the social growth of their community, begins here.

iii. Educational Foundation of Relational Education

Relational Education is a combination of several research-based strategies and practices that have been shown to improve student academic achievement, social behavior, engagement in school, and community involvement.

Through thematic education, the pathways to learning will be guided in ways that enable students to continuously use existing knowledge to develop the academic skills in context. Cognitive research shows that educational programs should challenge students to link, connect, and integrate ideas to learn in authentic contexts, taking into account students' perceptions of real-world problems (diSessa, 2000; Linn & His, 2000).

Relational Education is a pedagogic system whereby the student is at the center of the process as an active rather than a passive learner (Bruner, 1966), with an increase in responsibility and accountability (Lea et al., 2003). Through the process of reflectivity with a student, Educators are able to modify students' learning trajectory after regular one-on-one meetings, through which student feedback is vital means of targeting prior knowledge and developing grade level

competencies.

By interacting with students regularly on a one-on-one basis, Educators are able to identify suitable ways to approach student learning and tap into learning styles and multiple intelligences. Relational Education has as its priority the need for students to access and integrate different learning modes in order to increase opportunities for students to access and retain new knowledge (Gardner, 1993). Because students are also the arbiters in their learning within the Relational Education framework, student choice will invoke critical thinking, decision-making, reflection, and action (Bandura, 1997).

iv. Results of Previous Implementations

The Fontan School of Bogota, Colombia is the research and educational center for Relational Education. In 2011, it was awarded one of the "Top Three Most Innovative Schools Worldwide" by Microsoft Corporation's Partners in Learning Program. To date, Relational Education has been successfully utilized for more than five decades at the Fontan School of Bogota, and 30,000+ students in Colombia, Spain, Chile, Mexico, Costa Rica, and the U.S. learn under the Relational Education framework.

ACADEMIC PERFORMANCE	Traditional	RE
# of weeks to complete one grade with 100% of academic performance and 100% curriculum coverage:	64.4	38
Academic performance ratio over weeks of school year:	0.39	1.044

REPETITION	Traditional	RE
Academic performance ratio including repetition:	0.37	1.041

DROPOUT	Traditional	RE
Academic performance ratio including repetition and dropout:	0.36	1.039

Measurements demonstrate the effectiveness of Relational Education. Students take an average of 38 weeks to successfully complete all the curriculum of one full grade, while traditional education students take 64.4 weeks. Students failing a grade and dropout are close to zero. The total academic performance ratio of Relational Education is 1.039 compared to 0.36 of traditional education.

II. FOUNDATION

The foundation of Relational Education consists of four criteria:

- Perceiving the individual needs and interests of every student while personalizing the curriculum established by the district uniquely to each student's learning style;
- Creating work tools that allow each student to relate to knowledge from his/her own reality;
- Monitoring each student formally through personalized Student Learning Plans to engender development of autonomy in his/her academic performance and development of his/her potential more generally; and,
- Generating ongoing interactional spaces to provide student feedback.

III. SIX PRINCIPLES

i. Adapt Methodology to Students

For the last four decades, academics have researched and concluded that one-on-one is the best educational approach (Bloom, 1984; Ausubel, 1969; Bloom, 1984; Marzano, 2003). The educational methodology must adapt to students and enable them to work with their own **unique learning pace**. Relational Education focuses on realizing every student's potential through a personalized learning plan.

ii. Learning Autonomy

Relational Education trains students to become autonomous, 21st Century learners. The more autonomous students are, the more productive they become. Spontaneous learning becomes their formal way of learning, as content is approached through unique pathways by each student.

iii. Educators Are Catalysts

A catalyst is "an action between two or more persons or forces, initiated by an agent that itself remains unaffected by the action." Educators act as catalysts in the education process. They assist students in the process to become autonomous learners, who rely less and less on their Educators to learn.

iv. Student Excellence

Students must reach excellence in every unit of study they learn. Although time is variable, quality of a student's learning process is expected to improve consistently. Students habitually aim for excellence during their entire academic experience at the Fontan School and will potentially repeat this skill in every aspect of their lives.

v. Goal-oriented

The curriculum is established by the State standards and is followed through the Student Learning Plan. Students are empowered to plan their daily, weekly, monthly goals, creating self-esteem and autonomy. By working on their Student Learning Plans, students learn to develop strategies to reach goals to understand their strengths and how to augment them, as well as their weaknesses and how to overcome them.

vi. Relational Education

The Relational Education is called "Relational" because students move to the next topic in all subject areas only when they are able to "relate" with excellence everything they have learned to their daily lives, increasing knowledge retention and their chances to succeed academically.

IV. AUTONOMOUS LEARNING

As described in previous sections, Relational Education is a formal autonomous learning model designed as a personal educational project based on each student's abilities, working in tune with the student's individual learning pace. This drives the achievement of excellence for each subject, highlighting each individual's potential and developing his/her intellectual, personal, social-emotional competencies, which are essential for integration and commitment to their community. Autonomous learning is a basic tenet of Relational Education, which aims to encourage students to: independently seek out information, develop skill sets they can later apply throughout self-directed learning, generate an inborn capacity to take on tasks, become responsible for their own learning, and determine the direction of their own learning (Benson & Voller, 1997).

i. Foundations of Autonomy

The level of autonomy expected for each student depends on their drive for learning. Five major elements are significant to the process:

Performance: Defined as the student's capacity to set goals and overcome challenges within the proposed time frame, while maintaining a consistent work rate that is in line with his/her skills and is always in the process of improvement.

Awareness: Being conscious of and understanding what one feels, thinks, and how one behaves.

Critical Judgment: The capacity to take a stand on reality and defend it through discussion and acknowledge opposing ideas, opinions, and interpretations that may arise. The student undergoes genuine self-evaluations that begin with an assessment of his/her skills, challenges, and abilities

Active Social Participation: This manifests itself through commitments made by the student to collaborate in projects throughout his/her learning. Participation is promoted by the Educator when proposing ideas to students, which is best achieved in groups, for further exploration.

Spontaneity: This term describes the unique pathways found throughout a student's learning to describe its limitless boundaries within the RE model. Every student has his/her own way of being, of perceiving, and of conceiving the world. Therefore, a student's varying means of expression and methods for learning are welcomed.

ii. Advantages of Autonomy-Based Learning

Attention to Difference: Allows the individual to obtain the necessary recognition in order to achieve his/her identification as a person and not merely part of a whole, with unclear contributions. When students recognize who they are, they participate, criticize, and make proposals to work in unison while standing out as individuals.

Increased Depth of Knowledge: It is achieved by having autonomy as the basis for all school and pedagogical action, and being a student, the one who supplies the necessary interest and tools in order to make his/her own objectives meaningful.

Development of Student-Driven Learning: Students are required to develop their own interests within each subject area, set personal learning goals, and achieve those goals.

Relational Learning: Students' prior knowledge is supported through student-driven hands-on projects that integrate state and national standards in a meaningful way, which enables them to become progressively independent by connecting curriculum-based content to their own lives.

iii. Autonomous Learning Model

The autonomous learning model supports the area of knowledge built on Ausubel's (1968) theory of meaningful learning and Marzano, Pickering & Pollack (2006) learning from experience and evaluation. Autonomous learning is understood as the individual's capacity to learn and grasp the

world through itself, using his/her own skills. The following steps act as a parameter and constitute genuine meaningful learning, intimately related to individual experience as a foundation for action:

1. Pre-Existing Ideas

A student arrives with preconceived ideas created by his unique cultural experiences. As a student comes in contact with new knowledge, he must assimilate new information, applying prior knowledge to new situations, and accommodate his learning to meet the expectations of his learning environment.

2. Evidence-based learning

The student continuously comes into contact with information, through verbal, written, graphic, physical, symbolic and experiential forms, among many others. Each of these sources must be approved by Educator.

3. Conceptualization

A concept is a mental representation that a person constructs from his/her understandings of a particular phenomenon, which requires various cognitive exercises that range from attention to application.

4. Understanding

Summed up in the capacity held to exercise in an interrelated way are: knowing, knowing how to do, and doing. This means that it is a gradual process that requires diverse forms of abstraction, depending on cognitive level attained by the individual; therefore, the skills employed depend on different levels of cognition.

5. Transfer

Transfer is the use of information to construct new knowledge or apply existing knowledge to a new discipline, or context.

6. Self-Evaluation

This is the process where the individual, from his/her own experience as a learner, manages to: verify (i.e., characteristics and requirements), reflect (i.e., personal and world connections), assess (i.e., difficulties, strengths), and self-regulate (i.e., making decisions about his/her learning) Self-evaluation stimulates meta-cognitive skills, which leads to the acquisition of self-critical, self-determined, and essentially autonomous learning.

Self-evaluation is not the only process developed in the acquisition of a comprehensive evaluation process, but, it is the most important evaluative level, fed by:

a. *Evaluation* (analysis) performed by the educator, which is given:
   i. Formative in nature, in that it provides the student with information on his/her own learning process and the effectiveness of the strategies used in order to reach this end;
   ii. Summative in nature: providing a global framework that encloses the student's entire process in a determined area. This observation of the student is captured through numeric data.

b. *Co-evaluation*: where the student builds criteria in conjunction with the educator, from which the positive aspects of the process and the possible strategies for improvement are implemented and established.

iv. The Four Levels of Autonomy

Relational Education recognizes four levels of autonomy that describe the students' level of agency throughout his/her learning. The four levels of autonomy are Guided, Advised, Oriented, and Autonomous.

1. Guided Level

This is the first level within the development of Relational Education's process of autonomy. It is the level where the student is still looking for tools that allow him/her to self-govern and self-organize, requiring precise guidance towards the achievement of his/her goals.

At this level, the student is guided by a concept of heteronomy, where his/her thinking is framed according to invariable rules, which he/she deems must be followed literally due to an external authority's demands.

Objectives, if they exist, are short-term and focused on the activities, which are being experienced in his/her immediate environment. As such, behavior is determined and justified by external factors and by the actions of others rather than one's own.

It is at this level that behavior responds to consequences: To avoid punishment (for example: *I won't hit my classmate, because if I do so I'll get punished.)*, or to obtain a prize (for example: *I do my homework because if I do it my parents will buy me a scooter.)*

2. Advised Level

Within the second level of autonomy, the student's behavior still depends on external rules, but is carried out in line with an established order in which a student is beginning to recognize and follow.

It is here that a rule begins to be understood as a functional structure that every person participates in, and in which the models of authority are present as guides and companions of the process, not as imposing figures.

This level works with mediated communication processes, which focus on the development of a real sense of what is thought and done, but behavior still arises which occurs in order to satisfy others (*I have to be good so my parents feel proud of me*), or in order to maintain a social group (*I have to do my duty in the way my friends tell me to, as we all act the same.*)

3. Oriented Level

This is a transition level, where the student is allowed to demonstrate if his/her skills are sufficiently developed to behave under the parameters of the autonomous level.

4. Autonomous Level

Students are considered to be autonomous when there is self-management and when rules and behavior are products of an agreement.

The basis for achieving a level of autonomy is when individual's actions are motivated by values and acceptance. Rules are followed in order to reach a consensus, and they cannot be disobeyed (*I have to respect the rules for the common good, and in order to reach a voluntary consensus. Rules are followed because they represent a structure that helps me achieve my personal goals.)*

IV. PROCESS

Relational Education is implemented based on well-developed processes and procedures, which define critical actions. Faculty has access to a continuous professional development throughout the school year that exposes the process of Relational Education. During training, faculty will be educated on the RE framework and will learn how to apply the processes in the school setting. The learning process occurs as follows:

i. Promoting Autonomy in Relational Education

It is important to clarify that the activities vary in accordance with the subject area and autonomy stage in which the individual is located. The methodology is structured based on the aforementioned concepts, outlined below.

1. Starting and Ending Points

In the first stage of learning, the student is asked to reflect on a new unit of study and state their pre-existing knowledge. Daily experience, everyday life, expectations, questions, doubts and curiosity become the starting points for this exploration.

In order to achieve the objective in this stage, the following activities are necessary:

- Relating prior knowledge to current unit of study;
- Responding to a contextualized question given by the Educator; and,
- Hypothesize what will learn and achieve in the unit of study.

2. Research

In this stage, the student investigates new information about the unit of study through information sources including visual (books, reports, e.g.), audio, audiovisual (videos, e.g.), dialogue, interviews, direct meetings. Investigation of the new information leads to the development of a knowledge base, which becomes apparent through analysis that the student is required to complete.

Learning products produced depend on student ability to synthesize information, and their appearances can vary although clear evidence must exist that the student understands the unit of study.

Student may submit their work in forms such as PowerPoint presentations, videos, concept maps, and essays, among others. The presentation of the knowledge acquired in a unit of study

must also demonstrate that they are capable of researching and organizing information clearly. A reference list must be presented as part of the learning product.

3. Skill Development

This stage begins the process of interpretation and the internalization of what has been learned and studied. This stage represents the central moment of the learning process because the student is required to apply what knowledge they have acquired so far to new applications within the unit of study. In this stage, the student's capacity to transform and/or improve the knowledge detected in the first stage is active. This stage also includes a planned activity given by the Educator. Examples include:

- Exercises and problems (mathematics);
- Laboratory report (science); and,
- Essay (social studies).

If the appropriate grading scale is not met, a supplementary activity will be assigned to allow the student to meet the established key performance indicators for that unit of study. Relational Education principles dictate that assignments can be modified based on a student's needs, interests, and learning styles and, therefore, the supplementary activity may follow this rubric for customization and individualization.

4. Relating

After the student has researched and understood the unit of study on which they are working and has passed appropriate assessments given by the Educator, the student is required to apply what they have learned and relate what they have learned to some aspect of "reality."

In this stage, students complete a self-evaluation of the learning process for the unit of study. In the self-evaluation, the student takes a critical view of the learning accomplished and, realizes what s/he has learned thus far, and sees how much learning is necessary to complete the process. Simultaneously, the student will see how his/her original hypotheses of the unit of study have been modified, validated, or rejected through the learning process.

The final work that the student presents to the Educator in this stage is the result of the entire learning process and includes the following:

- Application of the concepts in everyday or hypothetical contexts.
- Self-evaluation.

ii. Roles and Responsibilities

The Educator (A Certified Subject Matter/Grade Level Expert)

The Educator, who is a grade level and subject matter expert as determined by their level of certification, indicates the thought skills and activities that need to be developed in each subject,

the specific minimum resources that the student must consult, and the objectives to be achieved in the learning process.

After the work has been finished, the Educator will verify the whole learning process, from Stage 1 to Stage 4. If the student meets the goal he/she had set out at the beginning of the work, the Educator will determine if the work on such topic has been completed. The Educator will otherwise extend work patterns until the goal is met and will work with the Learning Coach to determine if changes need to be made to a Student Learning Plan to tailor the learning activity more closely to student needs, learning styles, and/or interests.

The Educator is the person who provides the clues, while the student is the *explorer* who chooses the path to follow. The objective is to go on a journey through the world of mathematics, history/social studies, science, literature, and art, among others. In this way, the student's goals will be the foundation on which s/he builds his/her own learning process.

The Educator does not question the student from the standpoint of rigid disciplinary knowledge, but from the place of encouraging student exploration. This means that the Educator asks exploratory questions (both cognitive and experiential) that engender students seeking answers independently in a true self-paced learning process.

The Educator keeps track of the student cognitive processes, providing the environment and the tools for independent processes (actions or particular methods, e.g.) to become autonomous learners. These processes are then reflected in the student developing increased awareness, thought, and purpose.

The Educator is the person that guides the student so that he/she can find a solution for a question or issue he/she does not understand. The Educator becomes the person that makes it possible for the student to find alternatives for solving his/her own questions, the facilitator of the learning process.

Learning Coaches

Learning Coaches are a part of the structure of Relational Education so that students have permanent guidance at school that takes into account their personal characteristics and socio-emotional realities.

The objectives of the Learning Coach are to guide the student towards the best ways to organize and develop school activities and to highlight the student's personal characteristics so that the student can achieve self-awareness of his/her own skills, strengths, and challenges. In addition, the Learning Coach is in charge of providing guidance, support, and advice during the learning process so they can perform well in their academic and personal lives. The Learning Coach also promotes and enables the student to acquire good work and study habits.

As the person in charge of learning skill development and work discipline, the Learning Coach supports the student to make his/her own decisions in terms of time management to and goal-setting, which helps the student learn how to make commitments and fulfill responsibilities. The Learning Coach provides feedback to students in about how their activities are scheduled, time management, and commitments.

Throughout the process, the student will be constantly supported and focused towards self-evaluation by their Learning Coach, who has observed the student's learning process and is able to provide feedback on time management and personal and academic work. During this time, the student develops five basic procedures that are implemented by using the following tools: a learning assessment, a Student Learning Plan, Learning Coach appointments, work planning, and follow-up appointments.

iii. Process Tools

Upon its design, each Student Learning Plan takes into account the following:

Each subject area plan consists of:

Assessment results: For every subject area, results from an initial assessment should be accessible to the Educator. The results help to specify the level of interest a student has for a subject area while also taking into account a student's study skills when developing a learning plan.

A listing of units of study: These outline the topics that will be encountered throughout a student's learning plan. The listing presents the number of unit themes a student will approach throughout an academic school year for the grade. Every unit of study will hold a value in days that will be summed each time a unit of study is completed, through the delivery of student work and performing end of unit assessments.

The Relational Education Process: Directions and personals goals needed to accomplish each of the stages in the FRE learning model.

3. Educator Promotion Appointments
A dialogue between the student and educator of each area takes place as a way to students to recognize the ways to deepen their understanding and acknowledge areas in need of improvement within a unit of study. In this meeting, student's thinking is and students are trained to inquire about the materials and resources needed to achieve goals.

4. The Student Learning Plan
The Student Learning Plan is designed for each student upon enrollment in the school, or when they change grades. It is a general overview of the activities to be carried out in order to achieve learning objectives, which also responds to each student's socio-emotional and academic needs. Therefore, the plan proposes the relevant actions that the school will undertake within the student's educational process.

The Student Learning Plan is designed through the accumulation of this data and information:

a) A parent interview form, which requests general information about the student from a parent.

b) A student interview form, which requests general information about the student from the student himself/herself.
c) Records from previous schools attended that may contain information a student's educational history.
e) An initial assessment performed when the student enters the school and changes grades;
d) And Learning Coach and Educator monitoring information.

5. Learning Coach Guidance Appointments

The guidance appointment is an exercise of self-evaluation and character development that leads the student to become increasingly aware of his/her actions, consequences, and responsibilities. During the appointment, commitments are established and are then planned into the student's schedule. These commitments act as indicators for evaluation for subsequent appointments and self-improvement. Students are required to arrive at the appointment with a complete self-assessment of his/her work performance in relation to meeting time management goals and general aptitude. The frequency of these appointments is defined by the students' level of autonomy. Students at earlier stages of autonomy have more frequent guidance appointments.

6. Parent Progress Meeting

The parent meeting is between the parents, the student, and the Learning Coach. The student is responsible for his/her own process and is required to give accurate information about his/her progress, difficulties, challenges, and strengths. The student it the one who knows best what needs to be improved and how to do it with the support of Educators and Learning Coaches. The Learning Coach reviews the student's self-assessment and guides the student at the meeting.

iv. Students

Relational Education is a pedagogical model that is student centered. Through customized Student Learning Plans, students learn and connect everything they learn to their own reality. Students are active members of their education. Student responsibilities in the autonomous learning model changes as their level of autonomy moves from directed, advised, oriented to autonomous. Their responsibilities within their level of autonomy are outlined in these five elements:

- Time management
- Setting priorities
- Decision-making
- Relationships with self, others and material objects
- Self-exploration, self-reflection, self-awareness and self-evaluation processes

Their roles in the autonomous model are listed here by the aforementioned elements:

1. Directed Students
    a. Time Management
        i. Managing key times (rest, specific times);
        ii. Scheduling responsibilities for the day, week, month;
        iii. Planning: following instructions; and
        iv. Time management: facilitating the construction of a cognitive structure in order to know what the students must do in a given window of time.

b. Setting Priorities
    i. Identifying the need to act in accordance with orders or academic regulations (the student knows they must bring homework, finish work, etc.); and
    ii. Acquiring initial study habits.
c. Decision-Making
    i. Related to preferences and immediate interests (such as the use of decorating material, or what to eat, etc.).
d. Relationship with Self, Others and Material Objects
    i. Reducing dependency for carrying out basic everyday activities;
    ii. Directed personal presentations;
    iii. Recognition as being important within one's environment;
    iv. The first recognition as a social subject who affects his/her environment;
    v. Recognizing authority figures as behavior models;
    vi. Developing social skills (how to behave, how to communicate, etc.);
    vii. Taking care of the environment, in a more aesthetic way; and
    viii. Sensitivity to things that are clean and in good condition.
e. Self-Exploration
    i. Initial recognition of skills and abilities in accordance with external feedback; and
    ii. The student begins to carry out specific self-awareness tasks.

2. Advised Students
    a. Time Management
        i. Daily planning through supervised weekly planning; and
        ii. Time management in accordance with time windows that the student can control, taking into account those beyond his/her control such as unforeseen circumstances and the time of others (how to make those spaces viable through my planning).
    b. Setting Priorities and Decision-Making
        i. Identifying particular needs in accordance with assigned activities; and
        ii. Supervised decision-making.
    c. Relationship with Self, Others and Material Objects
        i. Control over basic daily activities;
        ii. Determined personal appearance;
        iii. Recognizing different roles in accordance with different life environments;
        iv. Clear distinction of age and gender groups and identification with peers;
        v. Respectful relationships with others; and
        vi. Taking care of the space in which everyday life takes place.
    d. Self-Reflection
        i. Recognizing skills and interests, based on guidance from the Learning Coach in regards to the students performance and enriched by external feedback; and
        ii. Carrying out supervised self-evaluation, in accordance with a scale of values.

3. Oriented Students
    a. Time Management
        i. Initiating monthly planning through supervised monthly planning;
        ii. The beginning of monthly planning based on long-term projection; and
        iii. Training in time management that is appropriate for personal based on individual needs.

b. Setting Priorities and Decision-Making
   i. Identifying needs in accordance with particular interests;
   ii. Proposing personal goals; and
   iii. Guided decision-making.
c. Relationship with Self, Others and Material Objects
   i. Personal appearance appropriate to the place and situation, in accordance with social requirements;
   ii. Recognizing and fulfilling duties, in parallel with the validation of personal rights;
   iii. Respectful attitudes towards the activities carried out by others in nearby work spaces;
   iv. Maintaining harmonious relationships with everyone;
   v. Responsibility for the physical environment, recognizing that it exists for personal use and the use of others; and
   vi. Making more and more appropriate choices regarding places of work and study methods, among others.
d. Self-Recognition
   i. The student begins to make assessments of personal performance while being receptive to external observations and suggestions.

4. Autonomous Students
   a. Time Management
      i. Monthly and in some cases semester planning; and
      ii. Time management in regards to needs.
   b. Setting Priorities and Decision-Making
      i. Setting personal goals, consistent with reality;
      ii. Effective and timely fulfillment of personal goals; and
      iii. Decision-making that notes the individual's responsibility for his/her actions and is directed towards the definition of his/her life goals.
   c. Relationship with Self, Others and Material Objects
      i. Personal appearance that is appropriate and coherent with place and circumstances;
      ii. Proficiency in problem-solving;
      iii. Personal responsibility;
      iv. Harmonious and assertive relationships with others in different environments;
      v. Preserving and caring for the general and immediate physical environment; and
      vi. Free and appropriate choice of place of work, according to interests and needs.
   d. Self-Evaluation
      i. Generating internally generated self-evaluation processes independently of external monitoring; and
      ii. Decision-making coherent with self-evaluation processes.

RESEARCH BASE CURRICULUM

In order to address how learning best occurs, faculty are trained to: (1) design standards-based curriculum (using the principles of backward design); (2) align appropriate assessments to the standards;

and (3) implement project-based learning activities that are aligned to standards and reflect research-based best practices, as detailed in the Buck Institute's *Project Based Learning Handbook*.

Educators design instruction that incorporates strategies detailed in *Classroom Instruction That Works*, by Marzano, Pickering, and Pollock. The following provides a detailed description of the standards-based instructional design process. The method, known as "backward design," is an instructional design method with a strong research base currently being employed in reform efforts across the nation.

Originally published in *Understanding by Design*, by Grant Wiggins and Jay McTighe, this process of instructional planning provides educators with a method for aligning standards, assessment, and instruction. This process is one in which educators start with the desired results (personal goals and standards) – and then derive the curriculum from the evidence of learning (performances) called for by the standard and the teaching needed to equip students to perform.

Relational Education utilizes research to test and challenge existing models of theory and practice. For instance, educational researcher Benjamin Bloom examines in his 1984 article "The 2 Sigma Problem: The Search for Method of Group Instruction as Effective as One to One Tutoring." In the article, Bloom established 21 variables for effectively improving student achievement that he tested in three different environments: (1) the conventional classroom, (2) mastery instruction, which is the same as conventional classroom with the addition of feedback and corrective procedures, and (3) one to one tutoring.

Bloom found that one to one tutoring has the highest level of improving student achievement, as demonstrated in Figure 12. Bloom's research found that they could only combine no more than three of the 21 variables at a time to have positive results. In analyzing the unique approach of Relational Education, it combines up to 18 out of the 21 variables at one time, as outlined in Table 4 below. It means that if Bloom found great results with three variables, students can experience exponential learning achievements with 18 variables.

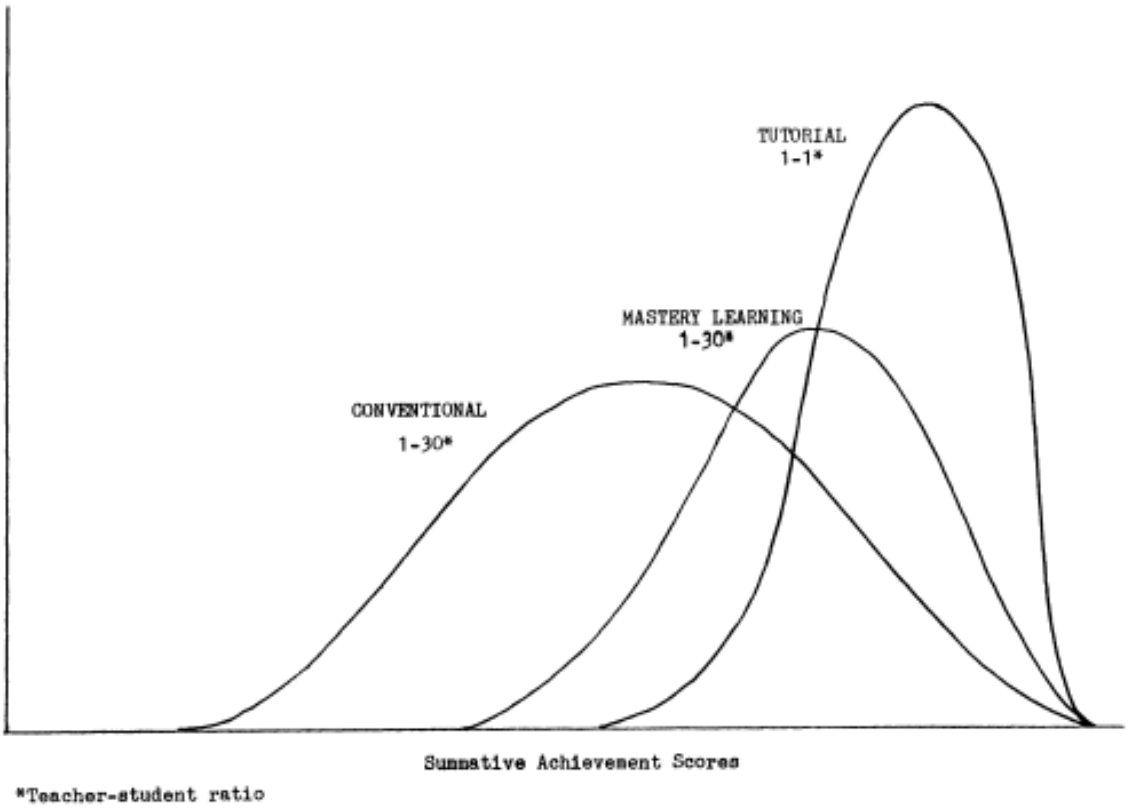

Figure 1. *Achievement distribution for students under conventional, mastery learning, and tutorial instruction.*

Object of Change Process	Matter	Relational Education
Educator	Tutoring	Educators customize the Student Learning Plan through assessing their abilities and interest. Educators accompany each of their students individually on the development of the intellectual and personal autonomy through continuous evaluation of the students' learning pace, work quality, reach, and tailoring the learning plan to increase achievement even more.
Learner	Reinforcement	Development of performance skills: the work is done in an organized manner, with high quality results expected. Students learn to accept consequences of own decisions. They can move to the next topic of each subject only when they reach excellence in that topic.
Learner	Mastering Learning	Stages of learning: information ordering, comprehension, skill practice and relation to student's life and reality. The process has continuous feedback until reaching excellence. The work forms a part of the solution of the problems of a student's life. They must achieve excellence to be able to move to the next topic.

Object of Change Process	Matter	Relational Education
Learner	Mastering Learning	Stages of learning: information ordering, comprehension, skill practice and relation to student's life and reality. The process has continuous feedback until reaching excellence. The work forms a part of the solution of the problems of a student's life. They must achieve excellence to be able to move to the next topic.
Learner	Cues and explanations	Process: work pace, progress and autonomy process. Excellence: no blank spaces. Build the process from the questions. Develop the ability to search for resources, manage the various types of tools and time administration. Students are actively engaged on their learning experience.
Learner	Student time on task	Students decide their hourly and daily schedule in agreement with their educators. Students are focused on their learning plan all day. Time is variable, so students can advance in topics faster than others, or dedicate more time to the topics with less proficiency. Provides the quantity of 'intelligent work' for the development of thought process; High intensity on shorter time periods, giving speed to educational process.
Learner	Improved reading skills	The first step on improving the students learning experience: changing the transcription reading (from blackboard/whiteboard) skill to understanding. This is essential to the process, given that the majority of information is in written format.
Learner	Cooperative learning, peer and cross-age remedial tutoring	Students work together in a community environment comparable to a library. It allows them the use of various times and space, proactively join others, develop an attitude of leadership and contribution. Students and educators establish community goals together, assume roles and relate to individual responsibilities to make the group successful. We do not have behavior issues. Students have high self-esteem and respect to others.
Learner	Group morale	Students establish their personal learning goals, act upon them, and assume responsibility of their actions, finding meaning in what they are learning and in their life. Because they now understand their limitations, they have more confidence and guidance from their educators to overcome it. Consequently, students increase self-respect and intrinsic motivation, and then they respect others, work as a community, agree on common goals, construct a plan and act upon it.
Learner	Initial cognitive pre-requisites	There is a starting and ending point for each topic. Once students understand where they are and where they want to go, the planning and acting process is defined. Educators support planning and the execution process after evaluating the starting/ending points. This generates the motivation necessary for the continuity of the process.
Environment	Home environment intervention	The learning process is adapted to the student's family, vocation and occupational reality. Parents are participants in the learning experience, since students relate all they learn to their reality. Parents are able to follow the learning process on-line, discuss issues with educators, and support their child with activities outside of school.

Object of Change Process	Matter	Relational Education
Learner	Higher order questions	High Mental Process is fully applied on its essence: to relate everything students learn to their lives.
Educator and Instructional Material	New Science and Math Curricula	Information in the world doubles every four years and 90% of it is on the Internet. The Relational Education uses the curriculum established by the country as a minimum resource, and expands on this curriculum up to four levels of difficulty incorporating new resources of every subject, not only math and science.
Educator	Educator Expectancy	Educators find pleasure on what they do because they see their students perform academically and personally. The more students perform, the more educators will be motivated to explore the art of education and the higher the probability for them to continue to work as an educator.
Learner	Peer group influence	The peer influence on such an environment where students have high self-esteem, understand their limits, are able to ask for help and recognized at all times for their work, benefits individuals and enhance the group ability to perform.
Instructional Material	Advance organizers	Subjects are grouped in areas, allowing students to easily correlate the subjects' similarities to their lives.
Instructional Material	Social-economic status	Since 2005, the Relational Education has been adopted by low and high performing schools, public and private. Students perform academically, regardless of their social-economic status.

Table 1 - *The 16 Bloom variables for effectively improving student achievement that are included in Relational Education.*

The figure below demonstrates where the Relational Education Method fits in the spectrum of research based methods of instruction.

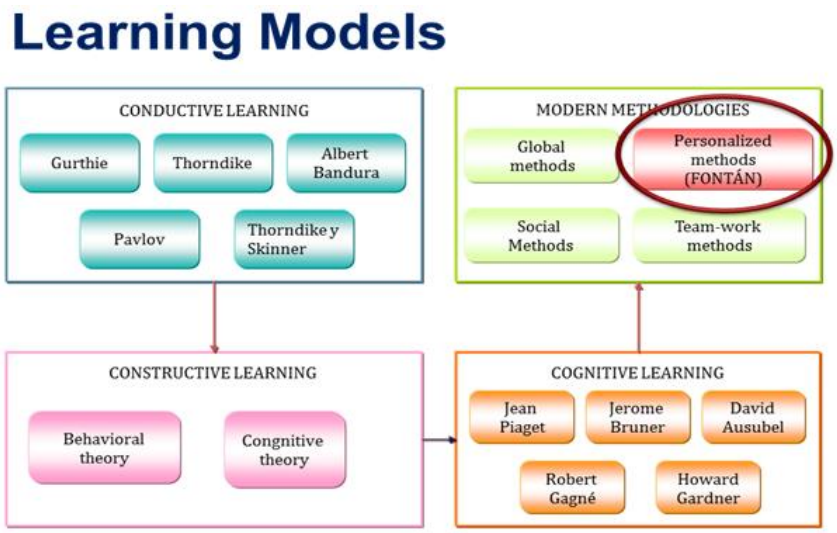

Figure 2 – *Learning models.*

ENHANCED ACADEMIC SUCCESS AND FINANCIAL EFFICIENCY ALIGNING RESPONSIBILITY AND ACCOUNTABILITY

Having a more efficient system that highlights each student's potential allows more students to have plans with greater content and depth for addressing each subject. As students gain autonomy under Relational Education the ratio of students per Educator increases naturally. While complying with the state requirements, we can maximize the number of students per Educator and the efficiency of their work.

Having more efficient Educators allows for more personalized attention to their students, and time to research and develop quality curriculum that will challenge students to a higher level of knowledge development. An efficient Educator and education model make it possible to increase compensation, thus attracting higher qualified professionals.

By having a personalized plan where students are given meaning to their lives, the Relational Education provides an additional solution to the dropout problem. Students, who usually fail the year in a traditional system, need only 1-2 more month(s) to remediate their studies in the Relational Education. In this case, no student fails the year.

Relational Education has proven in its past implementations that the cost per grade decreases as students gain autonomy. In addition to decreases in cost per child to complete a grade and a decrease in school dropouts, there is an increase in the level of excellence.

Because students work on a Personalized Learning Plan accompanied by their Educators at a one-on-one relationship, they are trained to work as researchers throughout their elementary and high school education years. The Educator and the student are both responsible and accountable for the student's

success. Autonomy benefits students in their academic and future lives, significantly increasing their chances to succeed post high school. The skills developed give students the opportunity to create their own jobs, work experiences, and/or companies.

Having a more efficient system that highlights each individual's potential allows more students to have plans with greater content and depth for addressing each subject. This system proved that the **cost per grade decreases as students gain autonomy**. We can maximize the number of students per educator and the efficiency of their work, while complying with the State requirements.

The flexibility of the Relational Education system addresses school dropout rates, which is a significant concern for all countries worldwide. Because of economic constraints, children from lower income families have a tendency to drop out of school to support the family. By having a personalized plan where students are given meaning to their lives, the Relational Education provides an additional solution to the dropout problem. Figure 1 shows the variables of an efficient education system.

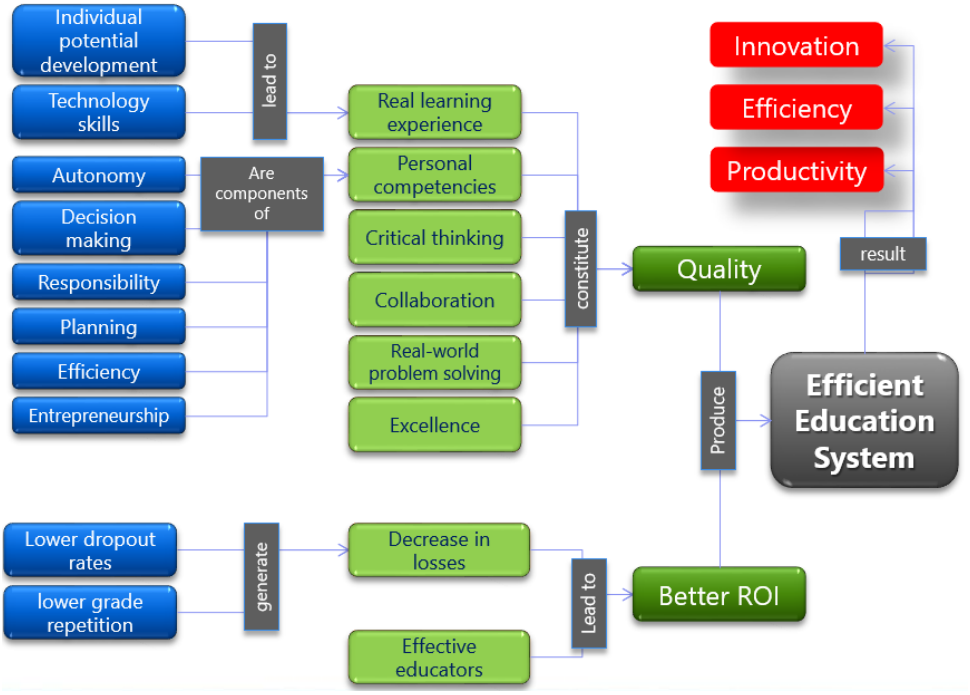

Figure 1 – The anatomy of an efficient educational system

IMPROVE STUDENT LEARNING AND ACADEMIC ACHIEVEMENT

Relational Education is "relational" because students move to the next topic in all subject areas only when they are able to "relate" everything they learn to their daily lives, increasing knowledge retention and their chances to succeed academically. Previous experience validates that Relational Education works equally well with students with disabilities, allowing them to perform as any student. Even if students forget the theory, they will remember how to use the concept because of this relation and practice.

Students plan how they will accomplish their daily, weekly and yearly learning activities. Educators provide personalized attention on a one-on-one basis. For every topic completed, students present the relationship of that topic to their present and future lives, increasing the chances to retain knowledge. Students are allowed to move to the next topic only when they master the current topic, through reaching excellence. Once all topics are completed, they can move to the next grade level.

Reading skills are constantly developed in each topic learned, as the only way to move forward is understanding, conceptualizing, practicing, and applying what they learned to the real world. Students are encouraged to work with their peers through seeking expertise advice or working in groups in specific topics.

Through academic work, students discover the importance in what they do. They learn how to research, and develop intellectual autonomy and creativity. At the same time, they learn to work on projects that require creativity and critical thinking, solve real-world problems, build knowledge, work to achieve excellence, and to self-assess. They develop work disciplines where they make decisions, are responsible, can plan ahead, manage their own time, and learn how to effectively work in challenging situations. This this proven and unique approach improves student learning and thus academic achievement.

DEVELOPING ENTREPRENEURS AND INNOVATORS

Relational Education develops key 21st Century skills that enable students to highly perform in the global world. These entrepreneurship skills are naturally developed and practiced during their academic experience:

- **Autonomy**: Educators support students on the development of their intellectual and personal autonomy.
- **Solution of Real-World Problems**: Student's work is based on constantly solving problems of their lives and their communities.
- **Planning**: Students plan their hourly and daily schedules, in agreement with their educators and respecting their Student Learning Plan.
- **Effectiveness**: Students develop the ability to search for resources, manage the various available tools, and administration of their own time.
- **Critical Thinking**: Students build processes from questions.
- **Decision Making**: Students decide upon various elements of their working plan.
- **Responsibility and Accountability**: Students learn to accept consequences of own decisions.
- **Leadership**: Students join others is a proactive and daily activity, supporting the community in their "expertise."
- **Excellence**: Students must achieve excellence to move to the next topic and grade level.
- **Creativity**: It is the only path to answer questions.
- **Relevant Learning**: The development of individual potential is achieved through personalized Student Learning Plans.
- **Technology Enabled**: Students use technology as the main learning tool and are opened to the world.

- **Collaboration**: Students work requires peers and educators to reach excellence.

By practicing every day in everything students do for 12 school years, these skills become a natural way of living.

INNOVATIVE LEARNING METHOD

The Relational Education pedagogy model implementation is an exceptional approach toward innovation because students move from curriculum receivers to actors of their learning experience, with personalized attention from their educators. Quality becomes the constant and time, the variable. Students are respected for their differences so their potential is explored at its maximum. The impact extends beyond academic performance, including aspects such as dropout rates decrease, grade failures, educators' effectiveness, and performance of the education system.

Relational Education is exceptionally unique and innovative due to the combination of five core structures.

- **Relational Education:** Relational Education is called "Relational" education because students move to the next topic in all subject areas only when they are able to "relate" everything they learn to their daily lives, increasing knowledge retention and their chances to succeed academically. Students must develop a final project and demonstrate to their educator they have mastered the content and can "relate" that content to their own realities.

- **Personalized Learning:** Each student is assessed on their knowledge, interests, and abilities, and given a personalized learning plan based on that assessment, allowing them to work according to their own unique learning pace. The personalized plan and relational learning method engage students, who find meaning in their education. Relational Education's framework allows educators to work with each student on a one-on-one basis.

- **Engaged Students:** Students are empowered by being part of developing their daily, weekly, monthly goal plans, creating self-esteem and autonomy. This develops students' intellectual, personal, social and emotional competencies, which are essential for integration and commitment to their community, national and global relationships.

- **Technology:** An on-line system supports Educators to prepare learning plans and provide systematic feedback, parent engagement, and learning resources that students have access to, anytime, anywhere. Different from other technology implementations that focus on content only, Relational Education uses technology to support the academic development based on a pedagogy model.

- **Productivity & Efficiency:** Students are trained to become autonomous, 21st Century learners. They explore each topic with a learning methodology that allows them to research, understand, practice and relate what they learn to their reality. The more autonomous students are the higher their productivity, which consequently increases the productivity and effectiveness of Educators. Students demand on their Educator decreases naturally, making it possible for Educators to further develop innovative practices, enhancing student's learning experience.

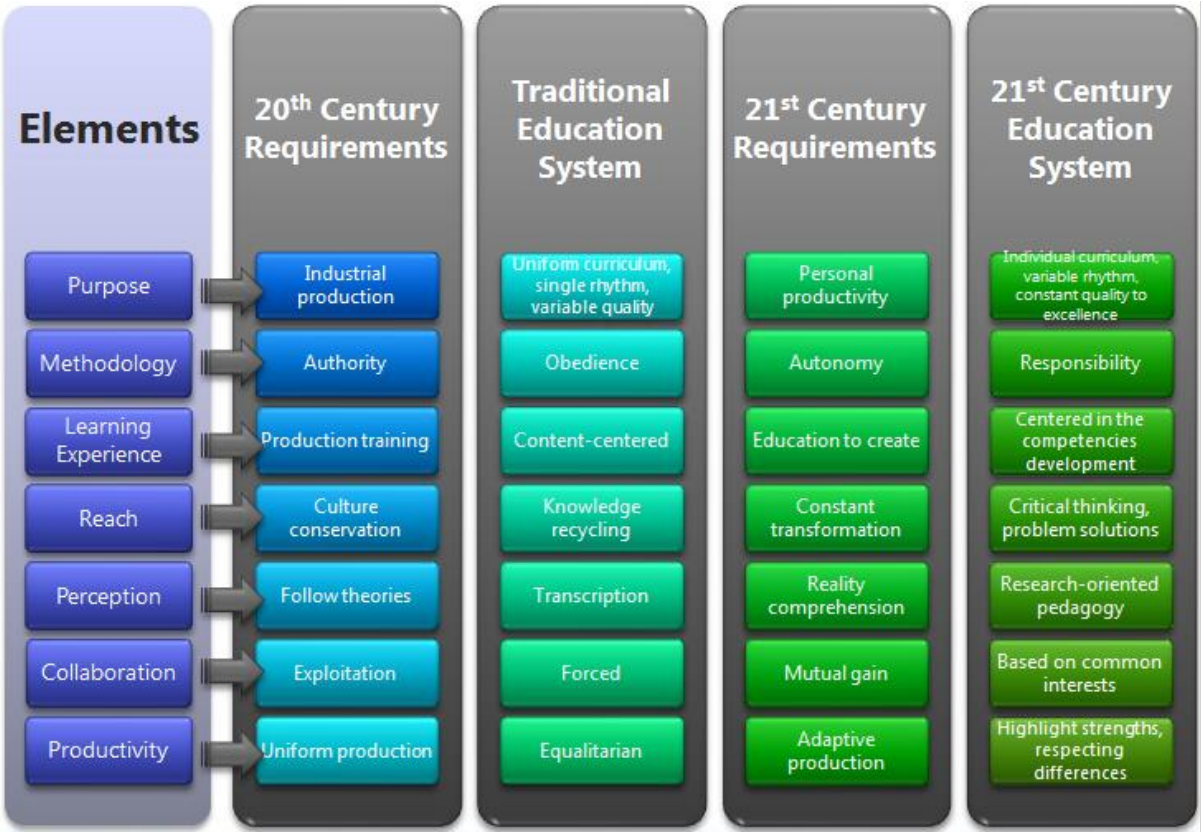

Figure 2 – An example of the 20th versus 21st Century education requirements

INNOVATIVE MEASUREMENT TOOLS

Students reach excellence in everything they learn. It is the only way to move to the next topic in every subject. Besides state required testing, students are evaluated on their ability to develop their individual potential. In addition to the traditional grading system, we will evaluate the following Key Performance Indicators (KPIs):

- **Learning Autonomy**: Students' ability to manage their own learning process;
- **Quality**: Ability to reach excellency, demonstrating a breadth and depth of content knowledge;
- **Reach**: Students' ability to surpass the required curriculum standards;
- **Work pace**: Number of learning objectives achieved (i.e. the completion of units of study) in a given timeframe;
- **Personalized Learning Plan completion**: Students' ability to reach objectives and their satisfaction with the process.

These KPIs, along with their academic performance, will provide students, parents, faculty, and staff, with a more thorough representation of the students' output and progress, and a better frame of reference of their potential.

CONCLUSION

Today's world requires innovation in the traditional education system. Relational Education is designed with these questions in mind: "How can a student receive individual attention and develop their greatest potential? Why does a student have to learn at the same pace as others? What prevents students from starting college earlier if their intellectual, social, personal and emotional capabilities allow for it?"

Students have different interests, abilities and learning pace. In the traditional education model, these students are required to be in the same classroom. Negative results are related mostly to the lack of interest in the subjects taught and to the number of students in the classroom. A student's productivity, interest and creativity are limited when they are required to share a learning model. Innovation occurs when a student has the freedom to create, instead of having to follow a learning framework established by others.

We understand that many students can perform well in the traditional education system. Nevertheless, as a country, we miss the talent and potential of students that are unable to adapt to it. The Relational Education is designed to embrace students' differences and give them the opportunity to realize their potential. It is our duty in this generation to fulfill this requirement, creating a favorable environment for this population, and consequently improving their social and economic opportunities, and their communities' prosperity.

REFERENCES

Ausubel, D. P. & Robinson, F. G. (1969). *School learning: An introduction to educational psychology*. New York-Holt, Rinehart & Winston.

Bandura, A. (1997). *Self-efficacy: The exercise of self control*. New York: W.H. Freeman.

Bloom, B. (1984*). Sigma problem: The search for methods of group instruction as effective as one to one tutoring.* Educational Researcher, *13*(6), 4-16.

diSessa, A. (2000). *Changing Minds*: *Computers, Learning, and Literacy*. Cambridge, MA: MIT Press.

Fontan, J. & Twani, E. (2009), *The Unwakened Potential*. ISBN: 2175-8921, 2009.

Gardner, H. (1993). *Multiple intelligences: The theory in practice*. New York: Basic Books.

Kotulak, R. (1997) *Inside the Brain: Revolutionary discoveries of how the mind works.* Kansas City, KS: Andrews McMeel Publishing.

Ladson-Billings, G.J. (1995). *Toward a theory of culturally relevant pedagogy*. American Education Research Journal, 35, 465-491.

Lea, S. J., D. Stephenson, and J. Troy (2003). *Higher Education Students' Attitudes to Student Centered Learning: Beyond 'educational bulimia'.* Studies in Higher Education 28(3), 321-334.

Linn, M. & His, S. (2000). *Computers, teachers, peers: Science learning partners*. Mahwah, NJ: Lawrence Erlbaum Associates.

Markham. T., Larmer, J. & Ravitz, J. (2004). *Project Based Learning Handbook: A guide to standards-focused project based learning*. Novato, CA: Buck Institute for Education

Marzano, R.J., (2003). *What works in schools: Translating research into action*. Alexandria, VA: ASCD.

Marzano, R. J., Pickering, D. J., & Pollock, J. E. (2001).*Classroom instruction that works: Research-based strategies for increasing student achievement.* Alexandria, VA: Association for Supervision and Curriculum Development.

Moll, L. C., Amanti, C., Neff, D., & González, N. (2001). *Funds of knowledge for teaching: Using a qualitative approach to connect homes and workshops.* Theory into Practice, 31(2), 132-141.

Thomas, J. W. (2000). *A review of research on project-based learning*.

Wiggins, G., & McTighe, J. (1998). *Understanding by design* .Alexandria, VA: Association for Supervision and Curriculum Development.