

## **A New Proposal for Education: The Da Vinci System**

Eugenia Padovani de Arce, Da Vinci International Elementary School Director and Dr. Adrian Arce, Da Vinci International Middle and High School Director, Japan

### **Abstract**

This paper is about the work on education we are developing at Da Vinci International. The results of the progress are considerable important. The philosophy towards managing the school is perfectly suited for children with learning disabilities. Assigning an individualized curriculum has helped many of the children in our school feel more at ease and comfortable, as well as happy to be in school. The Da Vinci System should be taken into consideration to be applied in the public schools (or other private institutions) to help those in need.

Instead of working by common core state standards, like public schools do, Da Vinci System works by assigning an individualized curriculum to each child that comes to the school, which depends on the placement test given in the beginning of the school year, or when the child begins attending. After taking the placement test the child is placed in the level that they scored on the test. Thereafter, the child is able to start at their appropriate level, and not on the level that everyone their age is expected to be. This type of system works wonders for children with learning disabilities because they can work based on their abilities, as well as on their own pace. It allows them to learn the school subjects much better as well as the child enjoys and remembers what they are learning. The difference is that Da Vinci International takes into consideration what children with learning disabilities have to go through on a daily basis; for example, frustration, irritations, anger, low self-esteem, insecurities and so on, and works on both their learning styles, and their inner and outer personalities. Also, the regular students are encouraged to perform at their best, and they really do it. We have many students that accomplished two grades in one school year. This is something that the public school system does not do because they have to follow and meet certain standards by the end of the year, rather than focusing on the children's needs or capabilities.

The Da Vinci System works by individualized curriculum. The student/teacher ratio in a class is of 8 to 1. The teaching style and class environment is also very different and unique. On a daily basis, the teacher makes sure their students are working forty-five minutes straight; during this time they are focusing on their work, meanwhile, the teachers work with each and everyone of them with whatever they need help on or use the forty five minutes to work as a whole class and teach the class something that is the same subject. Having a small class size helps both the teacher and student by 1: giving the teacher the ability to move around the class and not leave anyone out when needing help, and 2: by helping the student get the attention and help they need. Also, taking into consideration that most children with learning disabilities have a short attention span, they have permission to stand up and drink water, or go to the bathroom during class time, and get a fifteen-minute break or recess to get them back on track after the period. This schedule repeats throughout the day and functions very well with all kind of students. The student's goal of working hard throughout the day allows them to earn their break. However, if the goal is not followed through and or is misbehaving then their breaks are gradually taken away or depending on what misbehavior the student got into they get no break at all. Any type of misbehavior whether it be lashing out, bullying, or being rude, is all handled by first explaining to the student what they did wrong and then telling them that there are consequences for their actions, which is losing their break and will

be allowed to earn it back once they gain control over themselves. This teaches the child that they do have control of their abilities and are also able to learn the differences of what they should and should not do in life.

Moreover, by the end of the day the child leaves school happy and is allowed to spend leisure time with their family whether at home or doing extra-curricular activities by not having any homework. Having breaks at school, and not having homework allows the child to work hard in school and motivates them to do well. These privileges work as a positive reinforcement.

In Da Vinci, the relationship we pertain with the child, the parents, and with each other as employees is extremely important. We want to set an example for the students to perceive and learn from. No matter what the situation, we always keep a very positive and caring attitude. Through this the child has a positive outcome in school and in life, and the parents are happy with the difference we've made in their lives. In the paper you will find the testimony of some of the parent who wanted to share the changes in their children after start school at Da Vinci International.

## 1. Introduction

The present work represent the results of several years of investigation and study that eventually ended up in a research we called the “Da Vinci Educational System”. The approach to the difference needs we encounter as we started to work with children in their school needs, as well as the understanding of what the problems actually where (in contrast to what common perception sometimes gives as perceived problems), are born on a genuine desire to help children to achieve their best at school so we both, educators and students, have better results, better school experience and a better quality of life.

In our experience as mental health professionals and educators, we have been developing this educational system over the past seven years in the island of Okinawa, Japan We worked with an international multicultural community, setting the bases for a wider range work, covering school needs from Elementary to High School ages. The program works in English, Japanese, and Spanish or as a bilingual program combining any of the three.

The very reason we started this work was the need for a system that could contemplate the problems of students with different learning styles, learning disabilities, and numerous emotional challenges on the students as well as on their families; all that against the reality of rigid school structures with little or no room for innovation, creativity or enjoyment. The result of such a reality has often been demotivation with a lot of “school work” but very little “learning”, and the corresponding low performance on the students side.

Although we started our work in Japan as a valid alternative to the traditional system of public or private education, we have come to the realization that more and more the exception is becoming the norm and that what we have seen in small groups is perfectly applicable to the general system as a whole.

## 2. History and Background

At the beginning of the project we did not think of creating a new educational system or educational project necessarily. We were trying to give solution to a specific need we found with our own children's education. They were struggling in several areas and the school experience had turned into a nightmare. It was then when we decided to withdraw one of our children from the school to start working individually with him. He was showing symptoms of depression and the teacher had decided that he wouldn't be able to pass to the next grade due to his "insufficient academic skills". We changed him to a different school where he started to recover emotionally although his academic level remained low. Because of that he would spend every day countless hours doing homework to catch up but he was over stressed and exhausted from school, resulting in a very low performance. He was also constantly frustrated and unhappy and the feeling was always that "he couldn't and he can't do school". That brought his self-esteem down making his life not only difficult but with no hopes for the future.

At that point we decided to start working with him directly to help him recover emotionally as well as academically. We started by preparing one room in our house specially equipped to work with him: It had a desk, a chair, a book-shelf and a whiteboard. That was the initial setting. We started then with the same basic principles we still maintain. We started studying the lives of geniuses in history who were misjudged by their teachers<sup>1</sup> such as Thomas Edison or Albert Einstein, who were under-estimated by their teachers and labeled as "dumb", "lazy", or even worse. We explained him that many teachers don't understand those students who have a different way of processing ideas and then, often, can't help them. Inspired then by people like these geniuses and others like Leonardo Da Vinci, John Lennon, Henry Ford, Agatha Christi, etc. we named the project "Da Vinci International".

After working with him on his emotional recovery we started an academic curriculum. Six hours per day for two months was enough for him to finish his 5th grade, he had excellent grades and a clear understanding of himself but most important he enjoyed learning and was happy again. After this experience we started to structure the system and studied ways to improve our work on tutoring. At the same time we started working with our other two children; one of them with Asperger Syndrome and the other one severely Dyslexic. According to their difficulties we found different approaches and ways of treating their learning disabilities. On the academic side we saw the same results, after treating their emotional challenges they just starting to enjoy learning and very soon we saw three of them happy making huge progress on both the academic and the social aspects of their lives.

By then, other families started to bring their children and in every case we used the same principles to structure their school year. It has been six years so far and we have already seen over a hundred students from First to Twelfth Grade. Some of them came with strong symptoms of depression after failing for years and some other were just bored for not being challenged enough at school. In every case we used the same principles and obtained excellent results.

---

<sup>1</sup> DAVIS, RONALD D. *The Gift of Learning*. Berkley Publishing Group, New York. 2003.

### 3. The Problems

When we look at the challenges in education we find that they might be different from the challenges our parents (and their parents, and their parent's parents) found in previous generations. At a core level the basic definition of education is: "the process of imparting or acquiring general knowledge, developing the powers of reasoning and judgment, and generally of preparing oneself or others intellectually for mature life"<sup>2</sup>. Basically we want to give instruction and impart knowledge to our children so they will become mature adults, able to participate in society and to form their own families, to educate their children and repeat the cycle. Although the basics of education remains the same through generations, the truth is that as societies change, the challenges of forming mature adults able to function in those societies also change, therefore we find new problems and new needs as times evolve. The challenges we had fifty years ago in education are quite different for the challenges we have today. Thinking only in the amazing evolution of technology in this past fifty years will give us a broad idea of how much life has changed, and therefore how much education has had to change to adapt to the times we live. We could add to that equation the various problems in terms of political, geographical, and sociological changes (not to mention religious changes) our world has had and then we will be looking at a completely different picture altogether. So we can say that the challenges we face today cannot always be covered by using the structures, methods and tools we received yesterday. That would make, as Thomas Friedman well point in his work "The World is Flat", our education system outdated<sup>3</sup> if not obsolete.

When we started our "Da Vinci" project, we did it out of the need to find solution to certain specific problems that were not covered by the educational system. Not that the system wasn't working but we found several areas where the system needed an urgent up-date. These are the areas we listed up that became the problems that challenged our creativity.

#### 3.1. Low Performance

The number one problem, to put it in general terms, is that many students don't perform well at school. That has always been a challenge, but we found that the policies in place to cover that need are designed not to solve the problem but to hide it; such is the case of "no child left behind"<sup>4</sup>. The way schools are no leaving any child behind is not by improving the educational approach but just by lowering the academic standard, so everyone will pass to the next level, whether they learn or not. So we find many students who can manage to pass all the way from First Grade to High School not learning the minimum necessary to gain access to higher education, which brings up one of two options: a large number of students who can't continue their education or higher education institutions that lower their academic standards. Either case is not a solution to the basic problem.

The reasons why so many students don't perform well at school are many. On one hand we have students who cannot learn in the way the teachers teach due to several so called "Learning Disabilities", on the other hand we have an educational system that favors large classrooms with a large number of student per classroom with only one teacher; that forces the student to become independent in a very impersonal environment, to which no all the student can respond. As a result we have few students who enjoy the system, many students who manage to survive and some students who fail, however no student is "left behind". The number of students who fail is

---

2 Oxford Dictionary of English, Oxford University Press. 2010.

3 Friedman, Thomas L. 2005. The world is flat: a brief history of the twenty-first century. New York: Farrar, Straus and Giroux.

4 Gallup Poll Group presented a survey ten years after the law was signed in 2002. The survey says that 48% of Americans think the law has worsened the educational level, according to the Huffington Post.  
[http://www.huffingtonpost.com/2012/08/21/no-child-left-behind-wors\\_n\\_1819877.html](http://www.huffingtonpost.com/2012/08/21/no-child-left-behind-wors_n_1819877.html)

increasing compared to the ones who thrive in the system, so classes are turning into education for few and a painful process for the majority who finish each year performing under their potential.

A special note must be made on the Learning Disability issue. Most Learning Disabilities have a genetic causal component<sup>5</sup>. Dyslexia, Attention Deficit Disorders (ADD or ADHD), Asperger Syndrome, and all the conditions in between, are genetic. Therefore, it is to assume that the number of people affected by these conditions is constantly increasing, never decreasing. However, most teachers are not trained or qualified to teach (sometimes just to understand) children who suffer from these conditions. That is one of the reasons why so many students constantly fail and are just trying to “survive” school instead of enjoying learning.

### 3.2. Poor Social Development

A second problem we have identified is on the social development of the students. Many conditions that can be framed under the category of Learning Disability affect directly the social skills development. That is nothing new; it is well known that autistic children have their social development compromised and underdeveloped. It is the same for Asperger Syndrome, most aspergen kids are socially challenged. However, although that is not new, what is new is the changes on the understanding of such conditions and the categorization of them under the terms of the DSM-4 and DSM-5. The DSM<sup>6</sup> is the handbook in which all Psychiatric and Psychological Diagnosis are based upon. In most cases the criteria to get the diagnosis of Asperger Syndrome or Autism Syndrome is made of a number of characteristics that the child needs to have to get the diagnosis. A child who has seven out of ten of those characteristics will qualify to get the diagnosis<sup>7</sup>, while a child who meet only six of those ten characteristics will not. Six out of ten means that that child would be sixty percent Autistic or sixty percent Aspergen, which means that his or her social skills could be greatly compromised even if that child doesn't qualify for the diagnosis. A child like that has special needs, but is not as severe as to require special attention. On top of that problem (which is already concerning), until 2011 one of the conditions that qualified to get special attention and then, medical insurance coverage was Dyslexia. In 2012 all major insurance agencies in USA stopped funding treatments for Dyslexia and then children who suffer that condition didn't have the option of receiving any kind of treatment. That left a huge number of students uncovered by medical care yet with a huge problem for the schools, as most teachers don't have the necessary training to teach students with Dyslexia. Another big change occurred in 2013 when the DSM-5 changed the name of the condition Asperger Syndrome to group the children with that condition with Autism. The problem, again, is that the criteria changed so children with Asperger Syndrome are less severe that Autistic children so less children now fall in that category. Now this is about changing names and criteria but not about changing the reality, we still have a large number of students with special needs who are not being taken care of properly, which results in a change in the educational system that lowers the standards and still leave many students without the proper attention.

### 3.3. Frustration / Violence

A third problem we have to consider is the increase of violence in schools. Linked to violence as one possible cause of it is frustration. The feeling of dissatisfaction often accompanied by anxiety or depression, resulting from unfulfilled needs or unsolved problems, is almost always present when a student fails at school and there isn't proper effective help for him or her. Violence can well be an extreme reaction to the natural frustration of not knowing how to cope with a school system designed to make some students fail. What we see in school today is a system that cannot resolve important issues related to education, and in turn perpetuates some of these very problems. There is

---

5 DAVIS, RONALD D. *The Gift of Learning*. Berkley Publishing Group, New York. 2003.

6 *Diagnostic and Statistical Manual of Mental Disorders*

7 AMERICAN PSYCHIATRIC ASSOCIATION, *Diagnostic and statistical manual of mental disorders* (4th ed.). Washington, DC: Author. 1994.

a need for alternatives. A change in the educational system might take some time to process and by the time we get solutions to these issues, these very issues will have evolved into more serious problems, in fact, that might well be what has been happening in the past couple of decades.

## 4. Five Areas of Development

In sight of the previously listed problems we find in schools at the present, we decided to create a system that contemplates all these needs and give real solutions to most of them. The system is a work in progress but the results in these past five years are very promising. We believe that, as we continue developing the Da Vinci System, this could become a solution that could be replicated in a larger scale and adapted to different contexts to provide a valid alternative to the present needs.

There are five basic needs that we cover with the Da Vinci System:

### 4.1. Academic Development

As with many of these areas, finding a solution to the problem of low performance was a matter of going back to the basics of education, and in some cases, back to the past. Education wasn't always a massive task. It used to be limited to the activity of few people, where few teachers would personally instruct a few students encouraging them to follow the lead and guidance of the teacher. In ancient eastern cultures it used to be one teacher or master with a reduced number of followers who will receive instructions through daily activities<sup>8</sup>. Coming back to the individual or personal tutoring experience might be a solution to the academic challenge. We provide a custom made curriculum based on the actual academic level of the student as well as on his or her learning styles and difficulties. It is only through a small group and hours of individual assessment that we can know what exactly the student needs. Each student gets to start from where he or she left in terms of learning in past years. As we start teaching and guiding the student learning experience we bring into account his or her personality, learning style, preferences and particular needs. We use that information to select the materials the student will use as well as to define the program or schedule that particular student needs. Even though it takes several hours of individual work to assess the student, once the child has the proper materials and adequate program, he or she will develop two vital characteristics: independence and enjoyment as he or she learns. The results of individually tailored curriculum and personally selected materials is that the student will perform at his or her best.

The academic improvement brings an immediate consequence on the student's self-esteem. Once the child learns that he or she "can do it", then his or her natural desire to grow and improve will take him or her to setting his or her own learning pace or rhythm. Now because of the tutorial nature of the instruction a student doesn't need to wait for other students to catch up, so there are no limits in terms of how fast such student can advance his or her work. Another consequence of the academic improvement is a reduction on the levels of anxiety, which produces changes in his or her behavior and improves also life outside the school setting.

### 4.2. Social Development

Along with the academic development, we pay special attention to the social development of the child. In many cases we find an unbalanced development where the student performs fine academically but is behind on his or her social skills. That is in many cases a symptomatic expression of certain learning disabilities such as ADD, ADHD, High Functioning Asperger Syndrome or even certain type of Autism. A well conceived program must contemplate both the student's academic and social areas to provide him or her with all he or she needs in terms of education. A day at Da Vinci International starts at 9:00 in the morning and ends at 3:00 or 4:00 in the afternoon. Six or seven hours of individual work are sufficient to cover in a year time all the contents for one school year or even more. The students have fifteen minutes break every forty-five minutes of classes, plus they have a lunch break of one hour every day. The time set apart for breaks is in our opinion as important as the time set for academic work. It is there, during breaks, that

---

<sup>8</sup> M.a Teresa Román, Sabidurías Orientales de la Antigüedad, Alianza, Madrid, 2004.



children develop their social skills, they learn to interact, talk, play, and especially they learn to solve problems. During breaks the students are with the teacher or the teacher/therapist so they are under permanent supervision as they spend time “playing”. Discipline is an important part of the instruction. At Da Vinci we use time-out and we also teach our students the value of “restorative justice”, so when a child offends or affect negatively other child he is led to apologize in the first place and to restore the damage he has done by doing something other than only apologizing. In this way they learn to compensate for their mistakes. Some issues related to learning disabilities manifest during these social interactions, so we don’t have to wait until classes are over to work on correcting those behaviors but we can work with them right away when the problem occurs.

#### 4.3. Psychological Support for Learning Disabilities

When we receive a student we do a complete assessment of his or her learning disabilities. When the child meets some of the criteria for a certain learning disability (even if is not all seven out of ten characteristics that will make him qualify for a diagnosis), we do a correction treatment to teach the student to cope with his or her condition or symptoms. Then we follow up during the year with side support alongside the school year. Every teacher is trained in Behavior Modification Techniques so we can deal with issues when they emerge. Nor all the students have learning disabilities but we train all the students, so they will know how to identify behavior that is related to certain conditions so they can also understand and help the struggling student. Having the group actively participating in behavior modification through group therapy “as they play”, helps the class to understand better how to manage a group situation when they see one out of the school setting, and help them to apply those techniques at home when necessary.

Some conditions are said to be incurable. A child with Attention Deficit with Hyperactivity will always be ADHD as much as a child with Dyslexia will always be dyslexic. However, we can educate the child, train him, and make him or her an active part of his own correction process. The child then will learn to take an active roll in his own behavior modification process and learn how to use the techniques independently of the environment. Even if the child cannot stop being ADHD, he or she can certainly learn how to live with such condition and how to adapt to different situations by controlling him or herself. In some cases the treatment help them to reduce the symptoms making their life more enjoyable.

#### 4.4. Frustration Management / Bullying Reduction

The learning process often causes frustration. The inability of dealing with it often translates in class disruption, violence, distraction and or low performance. We work frustration management along the school year to prevent or correct these issues. However, more than teaching students how to manage their frustration, we work on eliminating the cause of it. In most cases the inability to cope with the school system, specially a system not designed to help student with special needs, translates in frustration. Taking away the main stressors and all unnecessary pressure the students start experiencing small portions of “success”. Along with that they also enjoy the experience at school. those two factors help to reduce the frustration to levels that they learn to manage. Prevention and management are the two tools we use to eliminate frustration<sup>9</sup>. With that in place, the absence of excessive frustration weakens the motor of violent reactions, leaving it as a matter of behavior adjustment which they can achieve by following consistent practice on the use of the behavior modification techniques we teach them.

A special emphasis is placed in preventing and correcting situation of bullying among the students. On one hand, because of their IEP the students cannot compare themselves to other students so they can advance at their own pace; on the other hand we don’t reward students based on comparison but based on their own improvement. Besides that, on the social area the teachers

---

9 Baker, Jed E. Social Skills, training for children and adolescents with Asperger syndrome and social-communication problems. Autism Asperger Publishing Co. Shawnee Mission, Kansas. 2004

place value on each student independently of their academic or social achievements, promoting respect and reinforcing their value as individuals.

#### 4.5. Quality life after school

We do not assign homework to favor family and social life as well as extra-curricular activities (academic or no academic). By doing so we also affect positively their family life. We understand that our responsibility doesn't end when the student leaves the school facilities, but he or she can incorporate the changes in behavior to develop a healthy relational life when he or she goes home. One direct effect of not assigning homework is that the relationship with his or her parents doesn't suffer from academic stress; the result of this is that the child is "happier" and that changes all the dynamics at home, providing also a better quality of life for the family. Some students go home and engage in academic activities with their parents, which is very positive. The difference between that and doing homework is that when the academic activity at home is taken in the context of being set by, carried on by, and done with the parent, it becomes an addition to the family life that ultimately contributes to a better relationship at home. When the academic activity at home is given in the context of homework, it centred in the teacher, the student and the parent (if he or she has to help the child) turn into completing something for the teacher, that means that the feeling is that the student and the family are to give account to the teacher. We believe that the direction should be the opposite, the basic education should be centered at home first and it is the school the one that is supposed to support home's fundamental education. By not assigning homework we open the opportunities to family interaction, whether it is academic or ludic activities. Sometimes children need to go home and play, just have time to play, because there is an educational dimension of "playing" that they need to develop.

As it was stated previously, these characteristics of our system correspond to five basic issues we find in education in most settings: Academic performance, Social Development, Attention Deficit and other Conditions, Frustration and Violence, and Quality of Life for students and teachers.

Our most basic philosophy is that when a child is happy at school, he or she performs better in school as well as at home and ultimately in the society. The setting of our school is unconventional, not tending to uniformity but open to the development of the student's individualities, flexible and affectively warm.

As for our teachers, we provide them with continuous training, above average salary and no extra hours of work. As it is the case with the students, teachers also perform much better when they are happy. We invest in them as a way of ensuring the quality of their work and the results on our student's lives.

## 5. Da Vinci System at Learning Disabilities

One of the reasons we created the Da Vinci System was to provide with valid alternatives of education to those children and families who needed them the most. Though most students are greatly benefitted by tutorial education with individualized curriculum, the ones who definitely get the most of it are those who suffer from any learning disability.

Among the students we work with, specially among those who suffer any kind of learning disability, there are four main group of conditions we see more often: Attention Deficit Disorder with and without Hyperactivity, Dyslexia (Dyscalculia and Dyspraxia), Asperger Syndrome, and Autism Spectrum Disorder. As it is the case with several other conditions, we don't always see a certain isolated condition but rather a number of symptoms that respond to more than one overlapping condition or something in between. In some cases we observe students after they have spent years of frustration at school so they come with signs of depression or having developed unhealthy ways of coping with their problems. What makes the process even more difficult is that in many cases the parents don't see -or don't want to see- the problems their children have. Some families would come to look for help because their child "didn't do very well at school", which is often attributed to a certain bad experience, or a bad teacher or a bad school. When parents don't want to know if their child is suffering from any kind of learning disability (LD), the help we can provide is limited. At one point we have to guide the parent to consider the idea and open his or her mind to the possibility that his or her child might be suffering from a certain condition. All that process takes time and usually requires some attention directed to the parent. In any case, by the time the parent has accepted that his or her child may be suffering from LD, the child is already into our school program. Now, because this process takes time, we don't always wait for the parent process to accept his or her child's condition but we start working right away. Since the system is tutorial every student has an IEP that we put together according his or her situation. Regardless of whether the parent fully understands his or her child's situation, we work most of our techniques to modify behavior with an individual approach or through group dynamics, at the same time that we follow the school work, so the child starts improving and embracing the learning process as soon as he or she starts school. The initial corrective treatment is only give once the child and the parent understand the need for it; but the work in the classroom, including all dynamics of behavior modification and group therapy can start as soon as the child starts classes at Da Vinci.

Learning Disabilities is a term used to group a number of conditions that have some common ground but also very specific and distinctive symptoms and ways of manifestation. In most cases there are stressors that trigger reactions and situations that cause children with LDs to struggle. Although every child is unique, in terms of the combination of personality and experiences, and has his or her own way of expressing thoughts and interacting with the group, there are certain characteristics that they all may have in common so we can also prepare a setting that is safe for children with LDs and at the same time beneficial for students who don't suffer from LDs.

Most children with LDs struggle with change<sup>10</sup>, whether is a small change of the daily routine or bigger changes that require re-adaptation to function. Children with Asperger Syndrome or with Autism need to have the same setting and schedule as well as the least possible variations in terms of people and objects around them. Children with Attention Deficit also struggle with changing places or schedules. Because of that our classes are set in a way that we minimize changes. Whenever we have to change schedules or settings we prepare the students in advance explaining and showing them in a visual way (drawings, charts, etc.) what, when and how those changes will take place. We can rehearse the changes so they can picture in their minds and then get used to the idea before it even starts.

---

10 JORDAN y POWELL (1995): Understanding and teaching Children with Autism. Wiley Davis, Ronald D. El Don de la Dislexia. Editorial Editex, España, 1994.

Children with Asperger and Autism have difficulties with un-precise or vague ideas or concepts. They need specific information to incorporate those ideas. If we have to announce an activity for the afternoon, it will be too vague to say “today in the afternoon”, we better say “today at three o’clock in the afternoon”. In that way we are preventing unnecessary anxiety on those students and it doesn’t affect negatively other students.

Students with Attention Deficit struggle with inattentiveness as well as with focusing. By having a setting where the student is seating facing the teacher and the teacher is in front of the student all the time, we will be helping these students from getting distracted. Now, in a regular classroom setting you can only have few students seating on the first row. At Da Vinci all of them seat at the first row. Our setting is a “U” formation with all the desks laying in the shape of the letter U and the teacher seating in the middle. In this way the teacher is always there and the student doesn’t have someone in front of him or her. In this setting the teacher is always working on individual basis with one of the students around the U and remains always accessible to all of them. The teacher doesn’t have a desk apart from this setting so the possibilities of getting distracted are reduced to the minimum.

Dyslexic students usually struggle with spelling and copying from the whiteboard. In our setting the teacher works individually with that student, he or she doesn’t have to copy from the whiteboard. Since the work is individual that particular student doesn’t have to compare with the student sitting next to him or her, that also prevent the student from the usual embarrassment of not being able to read or to spell correctly, or to spend too long to copy from the board or to write while the teacher is dictating. By taking away the possibility of embarrassment we reduce the anxiety level so the student doesn’t have to deal with the social stigma associated with his or her LD and can focus on working on correcting his or her condition.

## 6. Reports from research on results

We have gathered some of the reports of parents whose children attended Da Vinci International. Their input in sharing the changes they have observed in their children at home completes the picture of how the Da Vinci System works and what areas are affected other than the academic development. We tried to make it representative of the reality in a larger scale, by listing students from Elementary, Middle and High School levels.

### 6.1. Case 1 A. A.

Report from C. A., mother of an Elementary School Student named A. A.

“A. A. has improved academically in several areas. He has improved in math, money skills, and time telling. A. A. was weak in his times tables and couldn't divide numbers because he just didn't understand how to. If I asked him to get me a certain amount of change to purchase something he couldn't figure it out. He also couldn't tell time by a normal clock. Now, I can ask A. A. to get me change to purchase something and he can. A. A. can also tell time with no issues whatsoever. A. A. used to hate reading and would struggle constantly. He now reads to his brother and sister and asks me if he can read before he goes to bed every night. He has talked to me about certain science projects he is doing and how excited he is about learning about the different planets. Before when I would ask A. A. everyday what he did at school he would tell me I don't know. Now he tells me what he did and he is actually excited about it. When he used to go to a different school he didn't want to go back after the school breaks. At Da Vinci International he actually asks me if he can go back, he is ready and wants to go back to school before the breaks end. He has also started helping his younger brother and sister with their homework and praising them for doing a good job. His self esteem has improved with his school work because he knows he is actually learning.”

### 6.2. Case 2 Z. L.

This is the report of J. L., mom of a Jr. High Schooler named Z. L.

Z. has flourished academically this year. He no longer dreads school nor does he have a defeated attitude when he returns from school, which is what we were seeing everyday at his old schools. Z. Z.'s weakest subject was math, to the point where he would cry and become outwardly anxious when it came time to do math. He has come home recently saying, “I love math now, and I'm really getting epic at it”. These words almost made me cry. He is retaining a great deal more of what he is learning throughout the day, to the point where he will come home and share the many different topics he talked about during the day in school. Again, a year ago, he wouldn't even have remembered what they did in school that day. Z. Z. has come along way academically since beginning with Da Vinci International.

Z. Z. has never been a child who enjoys school. His attitude became more and more negative starting in second grade and continuing until mid fourth grade. No matter what we tried tutors, rewards, positive affirmation, it wasn't enough to change the way he felt about school. Z. Z. never wanted to go. It was really bad in third grade; due to the fact he was constantly being yelled at for not paying attention and was getting lost in the shuffle of children who were behavior problems. Z. Z. would beg to be homeschooled that year. His fear was math, and as much as we tried to help him, it wasn't enough. Unfortunately, things didn't get better, due to losing so much in third grade, it carried over to fourth grade, where the tempo picks up and he was lost once again.

Enrolling him at Da Vinci International was the best decision we could have made for Z. Z. He no longer cries when it times for school and he looks forward to going! He receives the one on one instruction he so desperately needs. There has been significant improvement in his attitude towards math.

Ms. Eugenia is a wonderfully caring and supportive professional. She has the patience of a saint and never gives up on the children. Her knowledge and understanding of children with special

learning needs far exceeds anything I could want for Z. Z.. She is able to work with him in a way that no other professional has been able to do. Z. Z. still has ways to go, but for the first time in a long time we are seeing him progress in the right direction. We give our heartfelt thanks to the help and support of Mrs. Eugenia and Mr. Adrian and the staff at Da Vinci International.

### 6.3. Case 3 S. B.

This is Mrs. B.'s report, parent of an Elementary School student named S. B. We worked with her only for three months:

We enrolled our daughter, S. B., at Da Vinci International at the mid-year point of her third grade. Since S. B. has been attending school there, her frustration and anxiety levels have dropped considerably. We used to dread homework time because of the battles and tears that were inevitable. S. B. works very hard at school and her Dyslexia causes much fatigue which triggered a lot of her behaviors at home during homework. Since Da Vinci International has a "no homework" policy, that concern is over. S. B. comes home and is able to relax and enjoy family time.

Confidence is another issue that needed to be worked on as well. Since S. B. has a gift of "fitting in", her teachers had a hard time noticing that she was just following along and "appeared" to be understanding concepts. In reality, she was suffering great anxiety about not understanding and getting behind. Now, S. B. is getting her lessons at her level and speed. Da Vinci International has been working on the "holes" in her learning and filling them. In just a short time, S. B. has shown much more confidence in her reading and her math. Instead of asking what something says, she will READ it. She will do every day math on her own and count her own money instead of asking us to do it.

S. B. struggled in reading terribly. She didn't even want to try to read, she would just ask us what it said. When we would read together at night, she would get very frustrated and angry when she didn't know a word. As soon as her frustration began, it was difficult for her to recover. Her reading level was below grade level and her fluency wasn't getting better. Her spelling was really bad too. She also has the classic reversal of letters known in dyslexics. Now, she has written me notes with every word spelled correctly! One night while watching TV, there was a sentence flashed on the screen. My older daughter asked what it had said and S. B. repeated it to her. Not only was she able to read the sentence, but she was able to do it quickly. They seem like small examples, but are major break through! She continues to improve and with that her confidence is boosting.

In just 3 months, S. B.'s improvements have been dramatic in her education and her behavior at home. I have to say that she is a much happier child because of it too!

### 6.4. Case 4 R. R.

This is the report from Mr. R. and Mrs. E. R., parents of an Elementary School student named R. R. Jr.

R. R. began having trouble reading and writing early on. He was diagnosed with Dyslexia during his 1st grade year in Yuma, AZ. When he began school, he always strived to be the 1st and do his best even with his disability. We provided him with an after-school tutor which began training him to overcome his challenges. He loved going to school and was always eager to attend school everyday. When we arrived in Okinawa, Japan, he began 3rd grade and was not provided any support in dealing with his Dyslexia. He was not able to focus and would frequently cry out in frustration at home and at school. He was also diagnosed with ADHD during this time and began Concerta toward the end of his 3rd grade. The medication however, had no effect on his behavior or school work and his teacher would frequently speak with us about his lack of motivation.

We decided to try Da Vinci International after some outstanding recommendations. He began his 4th grade year in which he was able to work at his own pace with plenty of one on one attention with the teacher. Along with his Behavior Correction Treatment he began to greatly improve in his education without the need of Concerta. He no longer cried at home or at school out of frustration and is now eager to go to school everyday.

R. R. has made dramatic improvement at school and is now a child that is eager to learn and attend school everyday. He has been more confident with his reading and writing and has benefited greatly from the program at Da Vinci International. We are truly grateful for the patience and instruction this school has provided our son.

#### 6.5. Case 5 C. Sh.

This is the report of C. Sh., mom of an Elementary School student named C.

I am writing this letter to Da Vinci International in Okinawa, Japan. The education program and counseling support services that Da Vinci International provide for children with ADD, ADHD and Dyslexia are exceptional. The curriculum and teaching practices the staff utilise are tailored to the individual child needs, but allow for optimum learning for each child within a small classroom environment. The class size and weekly reviews of lessons help gauge what the child has retained throughout the week, as well as recognize problem areas that need to be addressed from a counseling stand point.

While providing exceptional educational opportunities, they also provide counseling to the students, assisting them in the management and control of their specific learning disabilities. By providing the children with the appropriate tools, they are setting them up for success as they get older and mature into society.

Here is a success story about our eight year old daughter. Before she started classes at Da Vinci International, she attended a local DODDS (Department of Defense Public School on Military Bases overseas) facility. Although she was completing her studies and passing, her anger was out of control, her attention span was almost non-existent, and she lacked the appropriate social skills to function within her peer group. Even though her teachers wanted to help her more, they could not do so as they had a large class of 20+ students. Once those issues were brought to our attention, she was prescribed 27mg of Concerta and 10mg of Ritalin a day to function and maintain focus in class. Even though her behavior and attentiveness improved in class, homework was almost impossible to accomplish. After school, her medication had worn off and she was extremely difficult to instruct. She struggled to do just two or three pages of schoolwork over a two to three hour time period. The psychiatrist (who only saw her once every 3 to 5 months for 30 minutes) was insisting that we give her 10mg more of Ritalin to accomplish her studies at home, as well as a sleep aid to assist with her sleep schedule. At seven years old, that is entirely too much medication and this made us extremely uncomfortable. We do not want our child taking such high dosages. At that point, we decided to explore Da Vinci International at the recommendation of a friend of ours. Within 3 months of her attending that school, she was on ZERO medication, her focus and anger management had already begun to improve. To date, our daughter has gain weight, is a happy loving child, and she has been maintaining an overall A average. She isn't perfect; however, she is always thinking of someone else other than herself. My child hugs and kisses me now. Something she has not done since she was three years old. The outbursts and tantrums are almost non-existent. She is learning how to control herself and verbalize her feelings, wants, and needs. Da Vinci International has provided our daughter with the skills and opportunities otherwise not available in a normal educational environment that ensure her success.

The services provided by this educational institution go above and beyond your normal school environment. The educational success, mental maturity and social skills are detrimental to our children who require some special attention. The small classroom environments allow for this, and

are worth every dime spent. Our children are the priority, and Da Vinci International believes that. Our daughters' success is a testament to the services provided by Da Vinci International. I feel that the lessons learned at Da Vinci International are priceless; as they are preparing our countries future leaders with the tools they require to succeed in their adult lives and be productive members of society.

#### 6.6. Case 6 C. T.

These are two letters a High School student at Da Vinci International wrote to herself in two different instances. The first one was written on the same day she was admitted at Da Vinci International. The second one was written at the end of her second school year at Da Vinci.

September 2012. Dear C. T., Why are you so unhappy? Why do you cry yourself to sleep every night? Why do you feel like you are no good enough for anybody? Why do you feel so alone even though you are surrounded by a hundred people? Why do you feel like you are the only person in the world that is going through this? You don't remember the sound of your own laugh. When was the last time you even had a real smile? What did you do to deserve all this? When is this going to stop?

June 2013. Dear C. T.. Honestly, I don't think you have ever been happier. You finally realized how lucky and blessed you are to have the things you do. You have a loving family and supportive friends that will always be there for you no matter what. You really changed your outlook on life, and I am really proud of you.

C. T. completed two years in one and graduated from High School on June 20, 2013. She is currently taking College Level courses as she prepares to enter to a University in Florida, US.

#### 6.7. Case 7 L. S.

This is the report from one of the teachers working at Da Vinci International.

I studied in California State University of Los Angeles and received a bachelor's degree in Liberal Studies with an emphasis in elementary teaching. I am currently living and working in Okinawa, Japan. Before coming to Japan, I worked in a public elementary school in the Los Angeles Unified School District for about 5 years and had the privilege of being able to work with children with special needs on the last year before coming to Japan. Since I moved overseas, I have been working at Da Vinci International. Throughout the past 3 years, I have had the opportunity to work with all elementary school grades. I am currently a third-fifth grade teacher at Da Vinci International and find it very rewarding.

Working at C. T. has been an amazing experience. The school's philosophy towards managing the school is perfectly suited for children with learning disabilities. Assigning an individualized curriculum has helped many of the children in our school feel more at ease and comfortable, as well as happy to be in school. From my past experience working in a public school and now working at Da Vinci, I can say that the system in Da Vinci is what should be taken into consideration in the public schools to help those in need.

Instead of working by common core state standards, like public schools do, Da Vinci's system works by assigning an individualized curriculum to each child that comes to the school, which depends on the placement test given in the beginning of the school year, and when the child begins attending Da Vinci International. After taking the placement test the child is placed in the level that they scored on the test. Thereafter, the child is able to start at their appropriate level, and not on the level that everyone their age is expected to be. This type of system works wonders for children with learning disabilities because they can work based on their abilities, as well as on their own pace. It allows them to learn the school



subjects much better as well as the child enjoys and remembers what they are learning. In comparison, a public schools system works by the child meeting certain standards and not by their needs and abilities. The difference is that Da Vinci takes into consideration what children with learning disabilities have to go through on a daily basis; for example, frustration, irritations, anger, low self-esteem, insecurities and so on, and works on both their learning styles, and their inner and outer personalities. This is something that the public school system does not do because they have to follow and meet certain standards by the end of the school year, rather than focus on the children's needs.

Da Vinci International works by individualized curriculum and the class is on a 8:1 ratio, and the teaching style and class environment is also very different and unique. On a daily basis, as a teacher I have to make sure my students are working forty-five minutes straight. At this time they are focusing on their work, meanwhile, I work with each and everyone of them with whatever they need help on or use the forty five minutes to work as a whole class and teach the class something that is the same subject. Having a small class size helps both the teacher and student by one: giving the teacher the ability to move around the class and not leave anyone out when needing help, and two: by helping the student get the attention and help they need. Also, taking into consideration that most children with learning disabilities have a short attention span, they get a fifteen-minute break or recess to get them back on track. This schedule repeats throughout the day and functions very well with the students. Moreover, by the end of the day the child leaves school happy and is allowed to spend leisure time with their family whether at home or doing extra-curricular activities by not having any homework. Having breaks at school, and not having homework allows the child to work hard in school and motivates them to do well. I am witness that these privileges work as a positive reinforcement.

Academically, the school system allows the students to reach their goals by either reaching their grade level, or even surpassing it. Behavior wise, the student's goal of working hard throughout the day allows them to earn their break. However, if the goal is not followed through and or is misbehaving then their breaks are gradually taken away or depending on what misbehavior the student got into they get no break at all. Some of the students tend to lash out because of their inner frustrations and end up to losing their breaks, and our job as their teacher is to help them overcome their frustrations. A way we motivate them to overcome their needs is by having the student earn their breaks back. Again, any type of misbehavior whether it be lashing out, bullying, or being rude, is all handled by first explaining to the student what they did wrong and then telling them that there are consequences for their actions, which is losing their break and will be allowed to earn it back once they gain control over themselves. This teaches the child that they do have control of their abilities and are also able to learn the differences of what they should and should not do in life.

In Da Vinci, the relationship we pertain with the child, the parents, and with each other as employees is extremely important. We want to set an example for the students to perceive and learn from. No matter what the situation, we always keep a very positive and caring attitude. This allows each and everyone one of us to communicate in a respectful matter, trust each other, and keep us all well grounded. After all, the work we do at Da Vinci is to help the students as well as the parents to overcome problems they had elsewhere. Setting a good example is the best thing we can do. Through this the child has a positive outcome in school and in life, and the parents are happy with the difference we've made in their lives.

Working at Da Vinci International has taught me so much personally and professionally. It has made me a more understanding and humble person. It has made me

care so much for the students, and I find I keep learning from children with learning disabilities. I believe that the training I have received from Da Vinci International has really expanded my knowledge on how to teach them. This training has helped me understand different types of personalities, be patient with the children, and use different teaching techniques according to their needs. Da Vinci brings a lot of smiles to many children, I am thankful that there is a school that gives a chance and a positive outreach to all children.

## 6. Conclusion

Da Vinci International was born as an emergency plan for our second son. Very soon we found out that we weren't the only ones with that problem. Many families were also going through the same circumstances with their children, and their call for help encouraged us to open the door of this new proposal of education. Now, after many years of research and work with children who come from this situation, we understand how deeply a bad experience at school affect children, and how important it is to change that as soon as possible.

Our project started with this the goal of building our children up: in knowledge as in emotional health, making the school experience a successful one for them. Da Vinci is an alternative solution, an independent educational system. The principles we applied as we put together the project were thought as a way of providing solution for unsolved problems we (and other parents) found with the educational system. Six years after we started, these problems are still challenges to be addressed, and in some cases the situation has worsened as no solutions have been provided in other educational institutions.

There are four kind of students who attend Da Vinci International: Students with high IQ who get bored at school for not been challenged, students with special needs due to learning disabilities or other conditions, students whose families need flexibility in terms of schedule, and students who simply enjoy the possibility of having tutorial education in a safe environment. For all four kinds of students the Da Vinci System has worked well.

The main principle reflected in this research is that education has to start in the student not in the institution or the teacher. The classroom setting should respond to what is best for the student to learn in a better way, and no to what makes the teacher's work easier. The academic program should start where the student has problems so he or she get a good chance to learn what they haven't learned in the past. Learning disabilities and emotional challenges of the student must be taken care of (if needed), and a successful progress and promotion to the next level must be achieved. The no homework policy must be a norm. Children need free time to do different activities, and spend time with their families. The parent's don't need to be involved in the teacher's work, there is a different side of education (non-academic) that only parents can develop at home.

We believe and have already experienced that six hour per day working full time with the children, is enough time to teach and learn the year school curriculum. Giving the student freedom to learn at his or her own pace is one of the main points in our program. Once the children learn to be independent and learn how to learn, the pace speeds up, and at the end of the year the student surprises us accomplishing more than what it was planned at the beginning of the year.

We invest in educating our teachers according their needs and their own pace, reinforcing their weakest areas, to make of them the best teachers they can be. We train them in different areas. They need to know how to teach all the subjects, and how to connect with all the students, not only with those who can follow instruction and be independent learners, but also with those who have difficulties to do so. Those problems should be addressed before even starting to put together the curriculum. If the student needs special attention, the teacher should be prepared to either provide that attention himself or find resources to ensure the child get the attention he or she needs.

We understand that in every country there are schools with resources and school without them, there are always more needs than what the resources can cover, but we believe that the Da Vinci System can be replicated in different settings for different ages. It is a matter of applying the principles with a margin of creativity when it comes to define the format. For example, only a little adaptation to the classroom setting and many more students will be more comfortable and able to perform better. We have already seen the system replicated in different age groups and languages.

We started with Elementary School, now we have developed the system for Jr. High School, High School and Higher Education up to the level of Master Degree, and the results remain very positive.

However, all of the students coming to Da Vinci International who are coming from previous years of suffering at school, they all come from “rich” environments. They have been struggling and had a very difficult time but not because of lack of resources. Many of them have tried homeschool or personal tutors as well as different classes in the same school, but weren’t able to succeed. So what we see is that independently of the resources spent in the setting, the principles of focussing on the students and adding special training for the teachers is something feasible in most contexts. It is not a matter of how much we have, but how do we use what we have, not about how much we can spend in education, but rather how do we allocate the resources we already have, and how do we design the training of future generation of teachers.

Our goal is to duplicate the Da Vinci System in other cities of Japan, and other countries around the world, and help other schools to achieve the same goal we are reaching every day.

To conclude, we need to explain that this new proposal of education is free, dynamic, and changes permanently. Every time we face a problem, we add new things and we take out the ones didn't work any more. We try new curriculums every year, or we change materials as needed at the middle of the year. We make room for change, even though some times change is big and challenging, even if it looks like is too late or too expensive. We are not afraid to try new things if the results will be the success of our students because their success is our success.

## Bibliography

- AINSCOW, M., BERESFORD, J., HARRIS, A., HOPKINS, D., Y WEST, M. (2001) Crear condiciones para la mejora del trabajo en el aula. Manual para la formación del profesorado. Madrid: Narcea.
- AINSCOW, M., HOPKINS, D., SAUTWORTH, G., Y WEST, M. (2001) Hacia escuelas eficaces para todos. Manual para la formación de equipos docentes. Madrid: Narcea.
- BAUTISTA, R. (comp.) (1993): Necesidades educativas especiales. Aljibe, Málaga.
- AMERICAN PSYCHIATRIC ASSOCIATION, Diagnostic and statistical manual of mental disorders (4th ed.). Washington, DC: Author. 1994.
- GARCIA, J. N. (1998) (3 ed. rev.) Manual de dificultades de aprendizaje. Madrid. Narcea.
- ADRIEN, FAURE (1991) Autism and family Journal of autism and developmental disorders.
- JORDAN y POWELL (1995): Understanding and teaching Children with Autism. Wiley Davis, Ronald D. El Don de la Dislexia. Editorial Editex, España, 1994. 259 páginas
- FRANK, ROBERT. The Secret Life of the Dyslexic Child. Rodale Books, USA, 2004. 272 páginas.
- M.A TERESA ROMÓN. Sabidurías Orientales de la Antigüedad, Alianza, Madrid, 2004.
- WEST, THOMAS. In the Mind s Eye. Prometheus Books. USA, 1997. 397 páginas. Davis, Ronald D. The Gift of Dyslexia. Ability Workshop Press, New York 1994. 260 páginas.
- DAVIS, RONALD D. The Gift of Learning Berkley Publishing Group, New York 2003. 359 páginas
- SPRINTHALL, NORMAN A.; Collins, W. Andrew. Adolescent Psychology: A Developmental View. Mc Graw-Hill, Inc. United States of America 1995. 593 páginas
- FIORENZA, ANDREA. Niños y Adolescentes Difíciles. Editorial Del Nuevo Extremo. Buenos Aires 2004. 121 páginas
- ONETTO, FERNANDO. Con los Valores: ¿Quién se Anima? Editorial Bonum. Bs. As. Argentina,1997. 157 páginas
- BAKER, JED E. Social Skills, training for children and adolescents with Asperger syndrome and social-communication problems. Autism Asperger Publishing Co. Shawnee Mission, Kansas. 2004.