

Report: Exam Results and Findings- Unique Equine Studies School

Matriculation Program for High School Youth At-Risk

INTRA- Israel National Therapeutic Riding Association

Dr. Anita Shkedi

anitashkedi@gmail.com

Part 1: Introduction

One of the primary purposes of a school teacher is to encourage and provide information and tools to his or her students to learn effectively, be successful in school and reach the set of defined requirements. Today, it is very difficult for teachers to support students in their quest to reach these goals when most classes in special needs schools are overcrowded, and teaching and learning methods are often archaic and restricting. Often, school curricula are no more than a rushed syllabus, and teaching methods are rote learning and teacher centered. Many teachers are restricted from becoming trusting motivators who can offer incentives to get students involved. Students who are not motivated will not learn effectively and won't retain information. When schools and classroom environments interfere with study, a bleak future is painted for at-risk youth who are already coping with problems at home. They lose any form of self-resolve when denied any opportunity of thinking about furthering knowledge and education.

In Israel, statistics confirm that approximately 20% of all children/youth live at risk. At-risk youth are often abused and neglected by parents while living in a penurious home environment. Typically, poor home environments raise behaviors and emotional issues that cause ongoing academic and interpersonal failures, perpetuating negative self-images and continued acting out behavior. Many drop out of the educational system and are left vulnerable, unmotivated and unable to find satisfactory employment, training and advancement. (Israel's Children and Youth at Risk Facts and Figures, 2017)

Personal Motivation

Following my master's degree (2003), that researched the role of therapeutic riding in education, I was convinced that many of the at-risk youth had difficulty learning and integrating into school life because schools did not provide opportunities to explore creative thought and engagement with subjects studied. Methods of teaching and learning were controlled by non-motivating syllabi and rote learning.

My formative years had taught me to be inquisitive through experimentation, finding out what's going on in the real world. In a non-threatening, non-monotonous environment, I was encouraged to discuss and debate, and develop a passion for topics through experience and active learning that brought magic into my classroom. I was given responsibility through assignments that built a sense of ownership, accomplishment and the belief that I was on a par with others.

Twelve years ago, after permission from the Ministry of Education, I wrote an active learning program for teenagers that offered a school matriculation with maximum points. The agriculture exam was a school matriculation divided into three parts that studied the inside and out of a horse, comparing its form and development to other farm animals and birds in Israel. In addition, the studies informed students about the horse, in relationship to its value and worth, in the life of agriculture in Israel.

My aim was to develop a critical consciousness in at-risk youth so that they too could have that sense of ownership, accomplishment, and feel that they were on a par with others by studying for and passing a valuable high school matriculation exam. From my experiences, I was convinced that the horse environment is a perfect medium for these students to learn.

This paper analyzes and evaluates the effectiveness of the Equine Studies Program at INTRA- Israel National Therapeutic Riding Association. It describes the indicators for school performance and analysis of exam results. It reports on the success of the teaching and learning methodology, as well as reporting testimonials statements from students, teachers and equine assisted activities practitioners.

Sample

Participating youth at risk came from two Israeli special needs schools, where all students had learning difficulties as well as social and emotional needs that negatively impacted their lives. The participating students were both boys and girls between the ages of 16-19 years, however the exam results did not state names or gender of each participant.

Length and type of Program

The equine studies program extended over a period of two academic years. Each week students received six hours of study, four at the therapeutic riding center and a further two hours in the school classroom. The program was designed to include a research project and a field excursion. Those students who achieved positive exam results and presented a research project could receive the highest level of school matriculation. By offering at-risk youth the chance to gain a significant school matriculation, something most never dreamed of, they were able to become attentive and motivated in an environment which developed trust and inspired full potential.

“...Classrooms are unique spaces—sacred in the sense that what happens in a classroom can change lives. They’re spaces dedicated to learning, where students find the motivation to learn, and where learning happens in conjunction with others and from others. Classroom learning is expedited by an expert, one who has a sincere commitment to fostering the learning of others. That expert is responsible for directing the learning and judging whether it has occurred and to what degree” (Tompkins, 1991).

Actual Equine Studies Program

A) Design

The equine studies program was designed to have planned activities that *ignore all types of attention seeking behaviors* and spent time on building knowledge, and new students’ relationships with horses, instructors and their peers. Since the program

began in 2005, instructors at INTRA have learnt new techniques for partnering with horses, teaching students how to recognize and receive *non-verbal signals* from the horse that reduced their impulsivity, built a sense of calm and helped him/her regain focus. Additionally, working alongside the horse, instructors were *able to get closer* to the student. The students soon realized that the horse acts as a support, a positive *“arm around the student”*, a support that generally reduces inappropriate behavior. By leveraging horse care and management activities, it is possible to make learning extremely *interesting and fun*. Equine Studies as a new activity for all of the students, *changed the tempo of learning and eliminated much of the restless behavior*. In the therapeutic riding center environment, it was possible to restructure an activity in order to *support student learning, reduce overstimulation or lack of stimulation*.

B) Group Activities

The equine studies program, is aimed to help individuals gain identity, consciousness, a sense of self-worth and connectedness. To achieve this, we utilized group dynamics, collectiveness, collective identity, group consciousness and organization. At-risk youth learn more material by engaging with one another, discussing and making sure everyone understands. The therapeutic riding center is an environment that inspires collaborative learning with activities that engage and produce thoughtful learners. Providing interdependent activities, taught through communal activities and working in small groups, individuals were able to achieve significantly more than by themselves.

C) Research Project

The research project that the students embarked upon was specifically designed to be a collaborative, cooperative and problem-based method. Part of its aim was to encourage self-management, organization, trust and motivation. It provided a unique way to learn in an active authentic non-threatening environment. It aimed to support at-risk students who generally are not self-motivating and need incentives

to be involved to learn, by giving them trusted, attentive teachers, both the equine and human instructor. These relationships made it possible for students, who had great difficulty retaining information and participating in class activities, to refrain from becoming disruptive or opt out of school altogether (Tomkins,1991). Trust and motivation kept students on topic, interested, and engaged, and not a distracting force in the class.

The research project made it possible to maximize points for the equine studies school matriculation. Students participated in collective research about the horse and how it responds in various human-horse relationships. Commitment to the research project ensured five points for school matriculation. An example project that some of these at-risk students researched (2017):

***“What is the effect of the three stimuli that affect the response time of the horse?
A dependent variable-stimuli and an independent time variable”.***

C.1 Research hypotheses:

1. The food stimulus will be the most significant, and the horses will react to it as quickly as possible.
2. After food, the horses will respond to the voice, but not always.
3. Horses respond to color stimulation. Using colored T-shirts, it is presumed that the horse will not have a significant response.

Students researched horse topics both in the field and in the stalls using different stimuli. This made it possible for them to investigate external factors that may influence the life of the horse, and what conditions relaxed or frightened them or impacted their sensory systems. Researching well known empirical data, the at-risk students became well informed about the evolution of horses, confirmation, characteristics, nutrition, anatomy and physiology. The students presented the results as a report and PowerPoint presentation, which stimulated further classroom discussion.

Part 2: Data Collection and Findings from School Matriculation Exam Results

The data that were gathered came from 159 students at two special need schools, who signed up for the 2-year program and remained committed throughout the two academic years. School matriculation exam results were collected over a period of eight years (2009 to 2017). The results were analyzed, and comparisons made between average and median scores, and between both schools (2011-2013). In addition, analysis was made of 12 students' scores from three modules that made up the equine studies agriculture school matriculation. The modules' exams were practical horse care and management, horse theory, and studying other Israeli farm animals and birds. The examination technique included standardized questions that represented learning standards, achievement and a measurement of knowledge and skills of the students.

Standardized questions in an exam allows a test to be administered and scored in a consistent manner. Exams built using the same questions for all participants allows for uniform scoring procedures, interpretations are consistent, and scores are predetermined in a standard manner. The Equine Studies school matriculation in Israel is given to the students in the same way, the practical is at the therapeutic riding center, with an examiner who is not the center's instructor. The theoretical tests are administered orally for all students.

Key Findings:

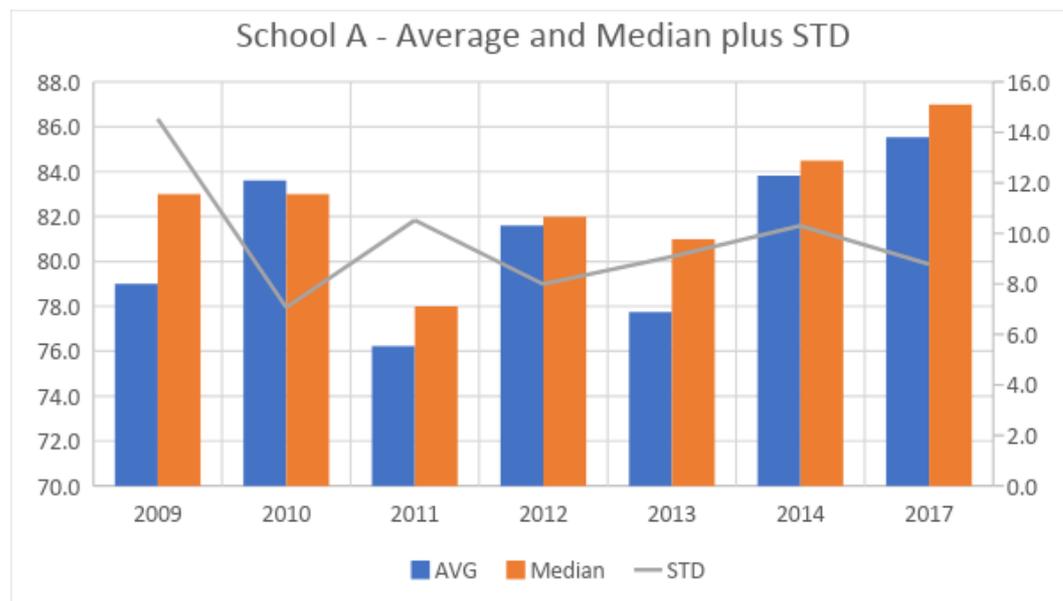
The key findings showed that there was a high level of achievement and that students fully participated in the program, with no dropout rate. The previous unseen exam questions represented the syllabus, and in many cases, they compared favorably with educational performance, which the exam results showed were constantly getting better. The general upward drift of scores matched the upward movement in learning and skills at the therapeutic riding center. The average pass rate was 82% and only 8.6% of students had ever failed the equine studies exams. The highest scores appeared in the horse practical exams, and the lowest were horse theory. The average and median scores were well in range of each other and the STD

scores demonstrated confidence in the scores as there were no big swings or fluctuations that could make the scores unrealistic.

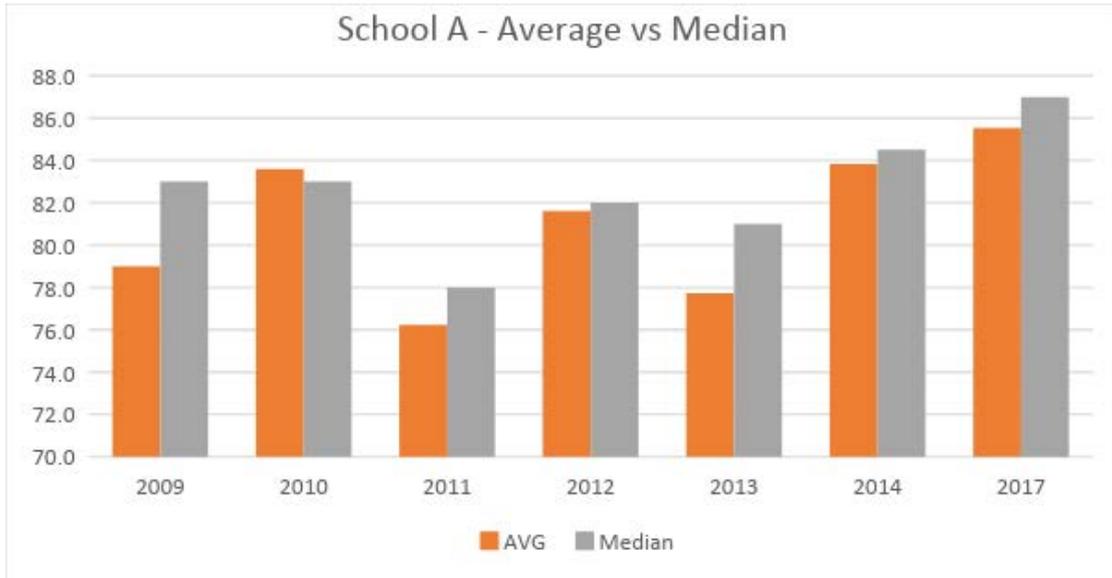
Equine Studies Matriculation Scores

Graph A: Table of Exam Scores from Schools A & B.

School A provided final exam scores from 2009-2017. The scores were a sum of the scores from the three modular exams. The average scores ranged between 79-85 and the median scores 83-87 with a STD ranging between 14.5% and 7%. The scores also represented the achievement and measurement of knowledge and skills as well as the learning standard and achievement.

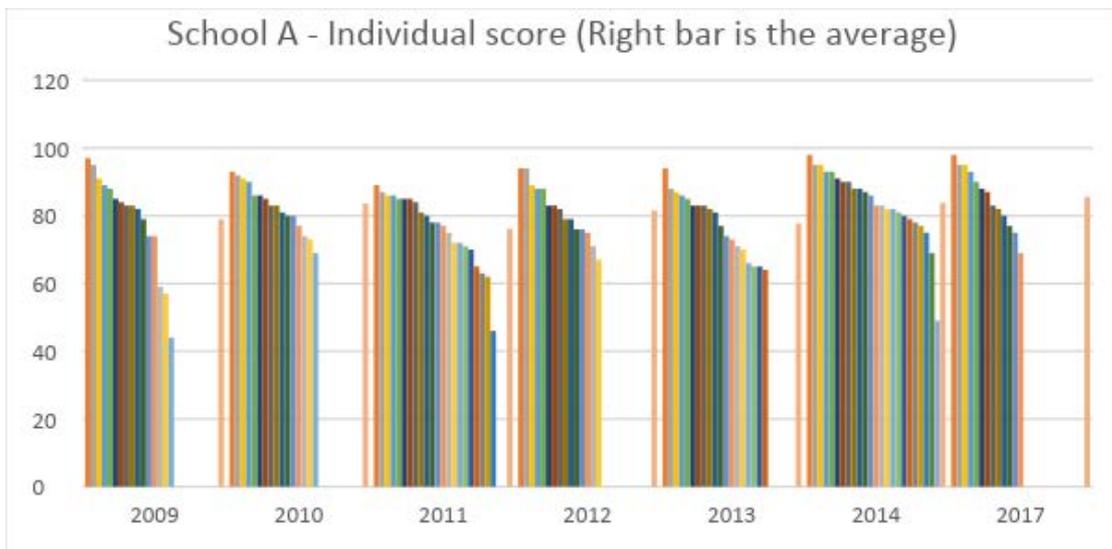


Graph B: School A: students' final exam scores. Except for 2010, the median scores constantly exceeded the average scores. The highest average score was 85.5 and lowest 76.6. The highest median score was 87 and lowest 78. Still the difference between the average and median scores were not so far apart to cause validity and reliability concerns.

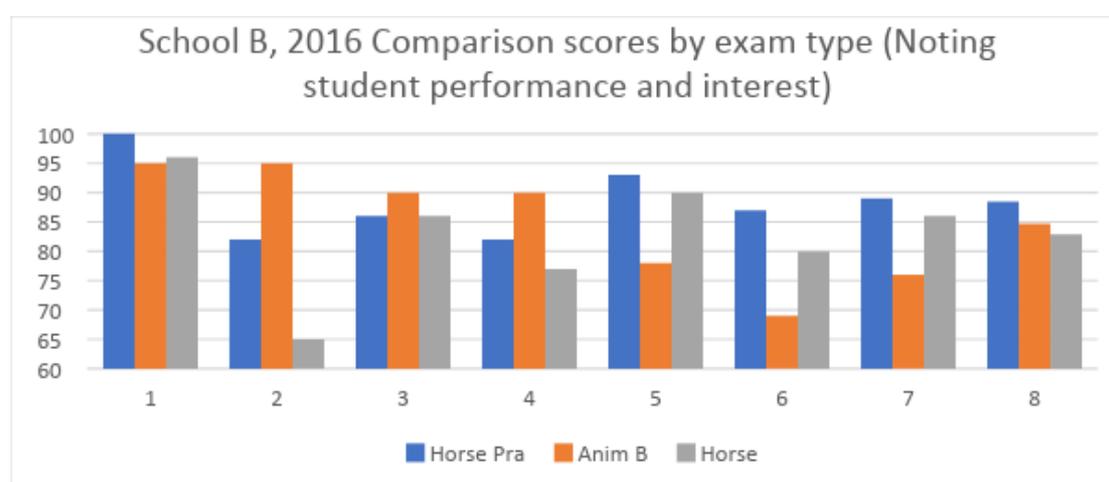


The average scores demonstrated that all students passed the exams, which required a 65% pass grade. The teachers in the schools considered scores above 85% exceptional. The median scores were higher, showing that students who held a middle score position had scores ranging between 83 and 87%. Standard deviation scores demonstrated that the scores were realistic and genuine with a deviation between 8 and 14%.

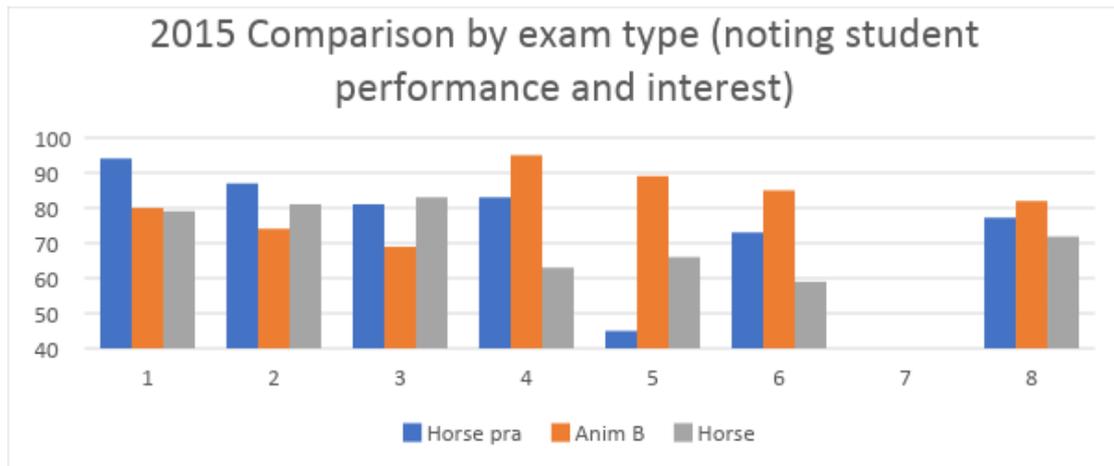
Graph C: School A: This graph shows individual scores and average scores from **2009 to 2017**. The maximum score was 98% and the lowest score 44%. Average scores ranging from 76% to 85.5%. The pass rate required was 65%.



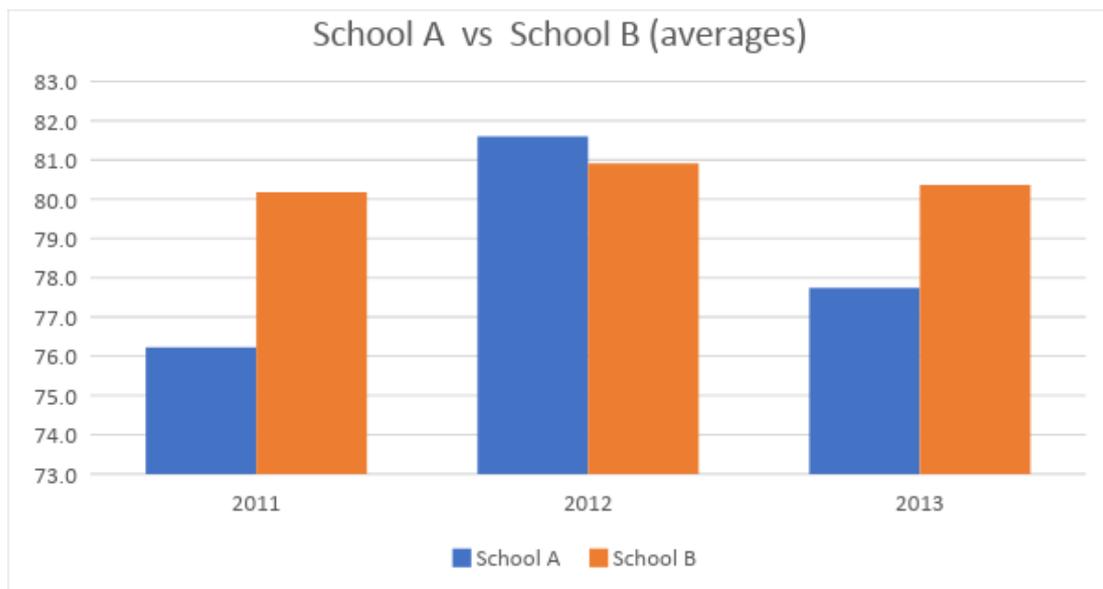
Graph D: School B. This graph compares scores of three exams that represent the modules of the Equine Studies agriculture exam that offered maximum points for National School Matriculation. The modules were Horse Practical (blue), Other Animals (Red) and Horse Theory (Grey). The minimum score was 60% and the maximum achieved was 100%. Students maintained high averages in all three modules and enjoyed high marks and positioning. All students in School B in 2016 passed their exams.



Graph E: School B. This graph compares the scores of three exams that represented the modules of the Equine Studies agriculture exam with maximum points for National School Matriculation. The three modules are Horse Practical (Blue), Other Animals (Red) and Horse Theory (Grey). The minimum score achieved was 40% and the maximum was 90%. Once again, most students maintained high scores in all three modules and only one student failed his or her exams in School B during 2015.



Graph F: This graph compares School A and School B's scores over three years of study (2011-2013). In 2011 School B was most successful. In 2012 School A led and in 2013 School B was the winner. The lowest score was 76% and the highest 81.5%



Graph G: This graph shows three years of School B scores. The lowest score was 64% (fail) and the highest scored 97%. In school B only one student failed the exam during these years. Generally, School B had higher average scores.

Discussion

The exam results were remarkable, an 82% average pass rate in both schools. Thus, most at-risk youth did benefit from the program. However, the scores did not indicate the toughness of exams or the degree of difficulty for participating students. For these at-risk students, it was not the difficulty that made these questions hard, but the emotional stress and anxieties the questioning produced. The module exam that taught horse care and management did produce the highest scores, and one student achieved 100%. For most of the students the exam was extremely difficult as they had to explain and demonstrate their knowledge and skills in front of someone who is a stranger. It was hard to confront face to face explanations, especially as they had little confidence, self-esteem and organizing skills. Not believing in themselves, they would have found the practical exam extremely threatening.

Generally, **oral testing** is frightening for all at-risk students, even when they are sitting with a known-teacher. Oral exams are supposed to provide participants with greater opportunities to showcase their interpersonal communication and presentation skills. They are supposed to demonstrate students' knowledge and mastery of the subject. The equine study oral exams, even though less formal, were still difficult, as the questions used were standardized, structured and listed, thus seeking concise answers. This required students to be prepared, listen carefully and respond directly.

Answering oral questions in some way gave more response choices for the student. Sometimes there were adjustments made to cope with student anxieties. For instance, in 2017, a student during course work caught his finger for a moment while tethering his horse. This frightened him and, he told his teacher that he didn't want to tie a horse in the exam. When he was asked to make the correct slip knot to tether a horse, he did it without the horse.

The horse theoretical exam, produced the lowest score, because, unfortunately, the schools having to cut cost, had decided to teach horse theory from the school. This meant that the topic had not always been taught by horse experts, or vets working with horses. The horse theory scores were significantly higher when students were

given experts to teach this subject (Graph D&E), while the exam scores for other animals remained high. For this topic, the school teacher was trained in animal biology and had studied agriculture in Israel.

At-risk students informed their teacher that the equine studies exam had become a fulfillment of year-long studies on a specific topic. They said they were more confident, after focusing on the subject, for an academic year. They reported that trying to excel, both in the classroom and in the exams, had given them much more confidence.

With the average pass rate being 82% and so few ever failing, the findings validated the importance of the horse, its strength and ability to improve youth at-risk academic standing, emotional, social and behavioral skills and position in society. At the riding center INTRA, the students reported that horses were central to building personal new confidence and empowerment. They reported that they felt *they were achieving, ambitious and ready to take on new challenges*. They said despite all of their social, emotional and behavioral challenges and/or Attention Deficit Hyperactivity Disorder (ADHD) in the atmosphere of the horse, they knew positive changes occurred. Moods swings, restlessness, frustration and anger, melted into calm cooperation and order. Impulsivity, and immediate gratification turned to consideration and give and take.

Producing outstanding new knowledge about horses and themselves, taught *transferrable skills and blue print tasks* *(Shkedi, 2012), which they said repeatedly transferred to the classroom to learn other school topics. Many at-risk students described their time with the horse as inspirational. They talked about the horse as a teacher who instilled trust making learning fun and possible to reach full potential. The students' belief in horses *engendered friendships*. Getting to know the horse, and realizing that horses judge actions and behaviors but, in the same, moment forgive for any incompetency. Getting to know horses, at-risk students saw how they reacted to human anger and fears. *Quickly realizing horses, like humans, need trust, the students modified behaviors to produce the much-desired change.*

For at-risk students who are constantly on an edge, between confidence and their own contingency of new possibilities, realizing that horses mirror human feelings, and even act out human feelings, helped the students choose a contingent possibility, which would be beneficial preventing any negative course of action, instead leading to cooperation. In school it is much harder to choose the right option as so many at-risk youths do not trust their teachers. The horse is a teacher who knows how to build trust, thus reducing social and learning complexities. Once at-risk youth trust, he or she can act in a way that would have been previously too complex for cooperation and learning.

Including a research project in the program got all the students involved, helping them to make the connections to real life which made them feel they were studying something important. Engaging in structured farm activities, like complicated feeding programs essential to keeping a horse well on a balanced diet, the students learned that total horse care *provides a sense of security and predictability* that was carried over into other areas of their lives. Learning to respect and take care of horses and equipment, in fact all items belonging to the farm, reminded them never to engage in any negative activities that could be damaging.

They understood how their knowledge could be used practically and recognized that their research could be used by real people in a farm environment and riding school environment, that this new knowledge was useful for the horse industry. Knowing this helped them to learn attentively, be critical, conscious and feel empowered. They had a real sense of achievement when they had finished, and they felt very creative and accomplished.

**(Blue print tasks are tasks that can be carried over to other environments, e.g. measuring the amount of feed for horses, teaches you how to make measurements in the mathematics class.)*

In Students' Words

I became more involved and could learn more easily.

I can see the difference between learning in the farm and school. The farm is experience and fun.

Learning in the farm has made it possible to learn other subjects in school.

I am learning to manage myself.

I stopped needing to take medication on the farm days.

It's great that you can apply what you learn straight away.

In school I am trapped.

The farm is an open space...I can breathe.

I got a good feeling at the farm. It was not only a good feeling about my grade or ability.

Our society is always grading and comparing, looking... myself comparing for ability... go around, detour disability.

At the farm I use my five senses.

I feel more intelligent during the time at the farm.

It's all about atmosphere at the farm.

Someone who is afraid of horses was helped by another student who for the first time treated him as an equal.

At the farm I felt fine. I enjoyed mostly the farm work with the horses.

I have learned that horses take longer to respond to individual stimuli when they are on the field because they are looking all the time at multiple stimuli at the same time.

I had more interesting farm work with the horses. I think and feel working on the computer more difficult.

Rarely, did a physical classroom space convey its significance in the way that the amazing open space of the center, which provides a place where practitioners, horses and at-risk youth enjoy educational activities that supports their special needs. At the Center, at-risk youth had their perspectives and beliefs confronted—not necessarily changed, but examined, explored, analyzed, and critiqued. “Why do you believe that?” “Why don’t you believe this?” “Is there evidence for what you believe?” “How would you respond to this argument against what you believe?” At the Center at-risk youth wrestled with new ideas, different ways of thinking, and better ways of doing tasks. They did make mistakes and were sometimes misunderstood, or even failed in the midst of trying hard, but they did this in a safe space, with horses who set the rules and instructors who cared and had time to care (Tompkins, 1991).

As Tompkins remarked “they should be doing so in spaces that keep their personhoods intact” (Tompkins, 1991). Tompkins (1991) proposed that classrooms are microcosms of the world, and that the teacher is the one in the space with the most power. It’s the teacher who sets the rules, decides what students can and can’t do, and then enforces those regulations. In the therapeutic riding center, horses set the pace and the students soon realized how much they trusted the horses, and how they guided the student to make the right contingency plans. Horses have different sets of rules, rules that reinforce power, leadership, as well as something in-between. In the therapeutic riding center great and magical things happen everywhere. When at-risk youth return to their classroom, they want the magic to continue, and they are able to bring back to their classrooms these newfound skills that will help them cope more effectively there.

Summary

Academic exams for at-risk youth change life values and expectations as they empower and altered a student’s sense of worth, performance and abilities. The equine studies school matriculation program developed critical consciousness and gave at risk youth a sense of ownership, accomplishment and feeling they were on a par with others by studying for and passing a valuable high school matriculation exam.

...the horse taught me so much, I discovered that I could learn even in the school classroom.

Building human-horse relationships in the non-threatening environment of a therapeutic riding center is more than a good idea. It is a place where 'at-risk' youth can go through an experience of building trust, belief in themselves and motivation to learn.

References:

Shkedi, A., 2012. Traumatic Brain Injury and Therapeutic Riding, Published in Israel, Amazon.Com

Tompkins, J., 1991. Teaching like it matters. *Lingua Franca*, August, pp. 24-27.

Israel's Children and Youth at Risk Facts and Figures (2017)
www.jdc.org.il/brookdale