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HOCUS FOCUS  
Evaluating the Academic and Functional Benefits of Integrating  
Magic Tricks In The Classroom

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## **Abstract**

The art of magic has the ability to capture and hold the inquisitive minds of children and adults. Using the intrinsic motivation of “how do he do that?” magic tricks can be integrated into academic and functional curriculum to reach all learners in an inclusive classroom environment, leveling the playing field for those from disadvantaged circumstances or those with learning challenges. ***Hocus Focus***<sup>™</sup> is a project-based, academic and functional curriculum that integrates simple tricks into the learning process. Studies have shown the benefits for student growth are numerous including improvement in critical thinking and observational techniques, problem-solving and presentation skills, and dexterity. It is also an effective tool for building self-esteem, teaching group cooperation, improving organization skills, and helping students achieve self-actualization and self-efficacy.

## **Introduction**

As a society, we are looking to schools to be or become settings where our children learn the skills for successful adulthood (e.g. IDEA, Goals 2000, Improving America's Schools Act). As educators, we are being asked to educate an increasingly heterogeneous population of students, some of which face additional challenges such as Learning Disabilities (LD), Emotional Behavior Disorders (EBD), Attention Deficit Hyper-activity Disorder (ADHD), Specific Learning Disabilities (SLD), Non-verbal Learning Disabilities (NLD), Autism Spectrum Disorders (ASD), or any number of other physical and/or psychosocial obstacles. Many of these students have a significant need to develop not only academic skills but also functional and social skills. Instruction that addresses these needs is often not a component of the school-wide curriculum.

## **Legislation and Inclusion**

In 1975, the U.S. Congress passed Public Law 94-142 (Education of All Handicapped Children Act), now codified as IDEA (Individuals with Disabilities Education Act). In order to receive federal funds, states must develop and implement policies that assure a free appropriate public education (FAPE) to all children with disabilities.

The IDEA became a major instrument of change in public schools in the later part of the 20<sup>th</sup> century. In the 21<sup>st</sup> century, the No Child Left Behind Act of 2001 (NCLB, Public Law 107-110) has become the instrument of change in education by mandating that all states establish academic content and achievement standards. This has placed – and will continue to place - an increased pressure on public schools to improve student educational outcomes, including those of students with a learning disability classification.

In fall 2007, almost 95 percent of 6- to 21-year-old LD students were served in regular schools (U.S. Dept of Education, 2009). In addition to the population of LD students, it is widely accepted that a considerable number of other students will need specialized instruction and accommodations in order to become academically and socially competent. These students are referred to as “at-risk.” Today, it is estimated that 20% - 60% of the general education population may comprise these “at-risk” students. And, by

most accounts, these students represent a challenge similar to that of students with disabilities. Effective strategies used to teach LD students are equally applicable to at-risk students. (R. A. Gable/J.M. Hendrickson, 2004)

In order to comply with the provisions of the IDEA, schools are establishing procedures to provide for retaining these at-risk and LD students in the general education classroom. This process is referred to as mainstreaming or inclusion and reflects the least restrictive environment (LRE) provision of the IDEA. It has been argued that mainstreaming or inclusion is an idealistic vision of all children being educated together. Critics suggest that inclusion is the first step by schools to accept that it is their responsibility to educate all students with learning disabilities. However, inclusion is not synonymous with integration (V. Sheffield, 2000). The fact that research offers no definitive answers on mainstreaming only complicates the discussion. Some studies suggest that LD students achieve greater social and academic gains in general education programs. In contrast, other studies reveal that instructional strategies, not classroom setting, have a greater affect on student performance.

Regardless of the research, the majority of LD students receive daily instruction in general education classrooms. This situation demands that we evaluate our present practices and demonstrate a willingness to abandon those that are inefficient for those that have been proven effective (R. A. Gable & J.M. Hendrickson, 2004). In these inclusive classroom environments, methods of instruction that benefit all students must be implemented in order to serve the needs of every learner. This requires educators to find new methods and tools to support an inclusive approach to education.

Another consequence of IDEA and NCLB is that educators are assuming different roles in the classroom and working cooperatively with their colleagues in other education disciplines, i.e. school psychologists, therapists, guidance counselors, and speech/language pathologists. These collaborations provide a more comprehensive foundation to produce greater achievement in academic and social skills with at-risk and LD students in general education classrooms.

## **The Arts in the Classroom**

Research has demonstrated that the arts can play an important role in supporting the diverse learning needs of students. A 1999 study of over 2,000 students attending public schools in grades 4-8 found a significant relationship between arts programs and creative, cognitive, and personal competencies needed for academic success (Burton, Horowitz, & Abeles, 1999). Evidence indicates that learning through the arts can have a profound impact on learning in other domains including personal and social competencies (Champions for Change, 1999).

When taught in an organized and systematic manner, the arts provide children and young adults with authentic learning experiences that engage their minds, hearts, and bodies. The learning experiences are real and meaningful for them, bringing together multiple skills and abilities. The art of illusion has the potential to capture and hold the attention of people of all ages. Children are especially intrigued by the seeming impossibility of a magic trick. Incorporating magic tricks into the learning process can be a powerful means of drawing on multiple learning modalities – visual, aural, and kinesthetic – allowing students to learn facts and concepts they can see, touch, manipulate, and talk about. Simple tricks can transform the learning process into a tangible and visible learning experience. It can also provide an appropriate means to build confidence, self-esteem, self-identity, and develop self-determination skills in all students.

This study began by asking two inter-related questions about the *Hocus Focus*<sup>™</sup> curriculum: To what extent are the desired participant outcomes being achieved? And what is the cost/benefit ratio for the teacher where cost equals time and benefit equals student growth.

By bringing to light changes in the law, changing student demographics, and the effectiveness of the arts in engaging learners, it is my goal to put into perspective the purpose of the *Hocus Focus*<sup>™</sup> curriculum: to provide educators with an effective tool

they can use to teach all students, with and without disabilities, in the general education classroom.

*Hocus Focus*<sup>™</sup> is a project-based, student-centered educational curriculum that utilizes the art of magic. It is a systematic approach by which students learn to focus and accomplish specific goals and objectives by learning magic tricks – simple tricks at first and then more complex tricks as they progress – and then exploring the benefits of each one. It can be used in conjunction with the traditional academic curriculum and encompasses a variety of instructional strategies and techniques. It can be both experiential and observational on the part of the learner.

The focus of this paper will address the findings of how the *Hocus Focus*<sup>™</sup> curriculum can empower teachers and students to achieve desired outcomes. The program is designed to be an engaging curriculum that helps students improve skills in these areas: sequencing, organizing tasks and movements, creativity, problem-solving, critical thinking, observational techniques, concentration, fine and gross motor skills, communication and presentation, and social behaviors. These skills were identified through the study of Bloom's Taxonomy of Learning (Anderson & Krathwohl, 2001), Michael Levine's Constructs of Neurodevelopmental Function (M. Levin, 2001), and Robert Marzano's New Taxonomy of Learning (R. Marzano, 2009).

## **Methodology**

### **Participants**

Three Evaluators were chosen for this study. The first Evaluator selected a population of four classrooms at a public school in north St. Louis County, Missouri. Each classroom represented four distinct populations of students. Each student had been placed in the school by the decision of an Individual Education Plan (IEP) team. The student educational diagnosis included Autism (ASD), Emotional Behavior Disorder (EBD), ADHD, Intellectual Disability (ID), and speech and language disorders. There were 19 females and 15 males, predominantly African-American. Teachers were

selected because of their willingness to participate in the evaluation. Two of the teachers had over 10 years experience in the classroom; the other two had between 5 and 6 years experience (B. Walkenhorst, 2010).

The second Evaluator consisted of four graduate students from the Department of Special Education at Saint Cloud State University (SCSU). They implemented the program in four level IV settings with twenty-seven students who were diagnosed as having an emotional behavior disorder (EBD) and learning disability (LD). The students' ages ranged from 12-14 years old (Noll & Johnson, 2010).

The third Evaluator was also a graduate student in the Department of Special Education at Saint Cloud State University (SCSU). This evaluator adapted the program for a class of fifteen students by selecting three students to learn, present, and teach the magic tricks to the remaining twelve students. The objective was to decrease inappropriate behaviors in one student with EBD and increase self-advocacy skills of one student with LD and one student with Asperger's disorder (ASD) (Noll & Johnson, 2010).

### **Evaluation Questions**

The following questions provided the guidelines for all evaluations of the *Hocus Focus*<sup>™</sup> curriculum.

1. How effective is the curriculum integrated and implemented by the classroom teacher?
2. Does the use of the program encourage student growth and development by improving cognitive abilities, student affect, and psychomotor skills, i.e. sequencing, organizing tasks and movements, fine motor dexterity, gross motor function/coordination, concentration, task follow-through and frustration tolerance, communication and presentation, and social behaviors?
3. Is the program able to be implemented in cross-platforms?
4. Is the program designed to align with local, state, and/or national standards or Grade Level Expectations?

This paper will focus only on the second of these questions: Does the program encourage student growth and development by improving their cognitive abilities, student affect, and psychomotor skills.

### **Materials and Procedure**

Data was systematically collected and evaluated utilizing both qualitative and quantitative data collection methods. These methods include observation checklists, pre/mid/post student surveys, pre/post teacher surveys, teacher observation data sheets, and anecdotal recording by teachers and students.

Students were given two self-assessment tools to complete at three distinct times throughout the curriculum. The tools were the Rosenberg Self-Esteem Scale and the Hocus Focus Self Efficacy scale. These were administered on the same timeline as the teachers' surveys, i.e. prior to start of curriculum, week six of curriculum, and after the final week. Students were also asked to keep a "Wizard's Book of Secrets" which contained their thoughts, ideas, and stories for each trick learned through the curriculum. Likewise teachers were asked to keep short anecdotal notes about the ease of use of the curriculum, noting what worked, what did not work and other thoughts about the curriculum. Both the "Wizard's Book of Secrets" and the teacher notes were collected and analyzed. Each of the data sets was initially coded by applying both deductive (Bogdan & Biklen, 2003; Miles & Huberman, 1994) and inductive coding strategies (Marshall & Rossman, 1999).

Classroom observations were scheduled on weeks 1, 3, 6, 9 as well as during the final performance. Each class was observed for either the entire lesson or a minimum of 20 minutes. Informal interviews were conducted with students and teacher participants following observations.

Analyses were conducted across data collected from each evaluator. In this manner, validity of the emergent themes was ensured.

## Results

Several common themes emerged among the teachers and students when comparing the data from each of the three evaluators (representing nine teachers and 76 students in various classrooms).

All nine of the teachers involved with this study independently made these compelling observations:

- The *Hocus Focus*<sup>™</sup> curriculum captures the students' attention immediately.
- Students spend their time learning instead of watching, actively engaging them in both physical and mental capacities.
- Students are introduced and taught the importance of sequential steps and following directions by the learning of simple magic tricks. The tricks included in the program offer enough 'wow' factors to keep the students engaged in the learning process.
- Students are encouraged to help each other and to provide constructive feedback to their peers as they learn together.
- Teachers saw value in the sequencing, writing, and problem solving utilized in the *Hocus Focus*<sup>™</sup> curriculum and saw a connection between the *Hocus Focus*<sup>™</sup> curriculum and skills in the other core curriculums.

Evaluator #1 (representing four teachers and 34 students) examined the results from the pre, mid, and post assessments. Teachers were asked to complete a brief survey on each student identifying their level of independence on each of these criteria: sequence 1-3 steps, sequence 3-7 steps, follow simple directions, follow complex directions, problem-solve, and on task behavior/focus. Rankings were identified as none, emergent, guided, and independent. The results of these surveys were compiled and each ranking was assigned a numerical score, i.e. none at 0, emergent at 2, guided at 4, and independent a 6. The scores of each student were averaged together and the mean average was listed for each assessment.

The results of Evaluator #1 demonstrated positive growth on all measured criteria with the greatest area of improvement evidenced in the area of on task behavior/focus (B. Walkenhorst, 2010).

The cross comparison findings of Evaluator #2 (four graduate students from SCSU representing 42 students) point to numerous benefits. Each teacher indicated they were able to recognize/observe student improvement in the following areas:

**Following multi-step directions, concentration, and memory skills.** Several teachers noted that students were able to recognize that they were following multi-step directions, accepted feedback, and had an increased sense of determination. Appealing to the intrinsic motivations of the students empowered them to demonstrate effective problem solving skills and improve concentration and memory skills.

**Self-determination skills and self-esteem.** One teacher stated, “Much of the day, these students are reminded of the difficulties they have in school but when they mastered a trick, they felt smart and proud of what they could do.” Magic tricks provide an excellent basis for problem solving, frustration tolerance, and task follow through. There is an inextricable connection between self-esteem and achievement. Teaching magic tricks in the context of an educational activity allowed students to experience academic successes as well as change the way they believe others perceive them and help them with social acceptance.

**On-task and participation behaviors.** When integrating magic tricks into the educational process, students became motivated to learn the lesson and to engage in purposeful conversation. Through positive group dynamics, they were able to enrich their own understanding by listening to the ideas and thoughts of others.

**Leadership and socialization skills.** All teachers indicated that their students demonstrated confidence in social situations, became more willing to talk with other students, and improved their presentation skills. The more reserved students gained

confidence in their ability to speak in front of the class. Their post-assessment surveys defined that the majority of students believed they were able to work together more effectively in a group and demonstrated leadership skills by taking the initiative to assist their classmates.

**Positive peer relationships, peer-mentoring, and peer collaboration.** Teachers noted that magic activities provided their students of different abilities with an opportunity to work in groups (Cooperative Learning). This process allowed students to seek social recognition in an appropriate way with an emphasis on belonging, being recognized, listened to, and noticed. Evaluator #3 noted that three students who would not typically be friends worked collaboratively on reading the lessons, presenting the academic connection to the class, and performing the magic tricks.

**Fine motor dexterity and gross motor coordination.** Findings in this research confirmed what had been previously concluded by occupational and physical therapists, i.e. integrating simple magic tricks into a rehabilitation program can improve dexterity and gross motor function (K. DeRoovere; 1997; *Kwong and Cullen, 2007; Sui and Sui, 2007; Fisher 2007; D. Green, 2010*).

**Positive impact on behavior.** In addition to the improvements seen in respect to self-esteem, self-efficacy, self-determination, and academic achievement, integrating magic tricks into educational activities can also have a profound impact on behavior. In a separate study conducted over a six-week period at Inner Harbor Hospital (*D. Levin, 2007*) with a group pre-adolescent boys, results confirmed that integrating simple magic tricks into classroom instruction can engage the student in the learning process and have a positive impact on self-esteem, behavior, and social cognition. Final results showed an improvement on eight (8) of the ten (10) items on the Rosenberg Self-Esteem Scale. Behavior tracking also indicated significant positive gains. There was a 65% decrease in interpersonal boundary violations and a 62% decrease in the requirement of staff to intervene with behavior disciplines.

Preliminary research confirms that *Hocus Focus*™ can provide educators and students an opportunity to experience growth and development in a fun, exciting, and engaging way. The overall reception to *Hocus Focus*™ was positive by both the teachers and the students involved.

### **Significance**

The *Hocus Focus*™ curriculum provides educators with access to specific, goal-oriented magic tricks for use in the classroom. Each of these tricks assists the student in the achievement a specific functional and/or academic objective aligned with a national standard of learning. Research and case studies have demonstrated that when teachers integrate these magic tricks into learning experiences, they can provide students with opportunities for significant advancements in critical thinking, problem solving, creativity, and retention, as well as positively impact the metacognitive and self-system processes.

Based on the pre and post assessments of the participants and the observation of the teachers, the integration of simple magic tricks into the classroom through a structured lesson plan can:

- Help “level the playing field” for students from disadvantaged circumstances or those with learning differences.
- Engage multiple skills and abilities while nurturing the development of cognitive, social, and personal competencies.
- Reach students who are not otherwise engaged in school and excite them about the learning process.
- Provide an opportunity for students to teach or mentor other students in the classroom.
- Become a bridge to learning and lead to success in other areas.
- Engage the "whole person" - the student is invested in ways that are more meaningful than simply "knowing the answer," or reciting facts from memory.

Unlike traditional learning experiences that look for right or wrong answers, being

engaged in the learning and performance of a magic trick allows for multiple outcomes.

It has also been shown that integrating magic into the classroom can also have a meaningful impact on self-esteem, self-determination, sensory development, and social behavior building relationships that might not normally exist between classmates. The development of these qualities provides for a better learning environment and, consequently, a better learning experience.

Robert Marzano observed that many studies support the idea that learning is most effective when it is social and collaborative (*Marzano, 2007*). The results of this research provide confirmation that integrating magic tricks into the educational process can engage students in purposeful conversation. They learn to depend on each other's thinking to enrich their own understanding and construct meaning. This cooperative learning process is a valuable experience for children.

Learning is deepest when students have the capacity to represent what they have learned to others. Helping one another stirs creativity, builds positive relationships, and employs higher order cognition. *Hocus Focus*<sup>™</sup> also provides the opportunity for students to acquire a skill that most others cannot perform improving self-concept, achieving self-efficacy, and increasing their feeling of control over their environment. The performance of the trick is a brilliant way to provide a platform for demonstrating what students have learned.

There is no generic Individual Education Plan (IEP) for children with learning differences. There are only IEPs for each student. Individualized programs must describe strategies for providing the student with acceptable and understandable ways of communication, teaching situation-appropriate social behaviors, and providing experiences that satisfy sensory needs. *Hocus Focus*<sup>™</sup> provides educators with another strategy to assist their students in meeting their IEP objectives.

Regardless of the functioning level of a student, whether they are mainstreamed or in group classes, all students can learn. As educators, it is our job to provide an environment that is conducive to learning – one that is engaging, goal-specific, and challenging. But we must also not lose sight of the concept that learning can be fun. The *Hocus Focus*<sup>™</sup> project provides educators with proven strategies and tools to help their students reach their goals and better prepare for the future.

When designing educational programs for students with learning differences, the learning of a magic trick can be included for each of the levels of the Cognitive Process. However, objectives can also be presented for the Metacognitive and Self System processes. It is in these levels of processing where magic may have the biggest impact and achieve the greatest results. Educators readily recognize these skills as important, but specific objectives in these categories are rarely included in an IEP.

Integrating simple magic tricks into the overall learning process can be a powerful and motivating way to engage students in their education – academically and functionally.

## **KEVIN SPENCER**

### **HOCUS FOCUS, INC.**

#### ***Presenter Biography***

Kevin Spencer is a world-renowned illusionist with dozens of accolades to his credit including *2009 International Magician of the Year* and six-time honoree of *Performing Arts Entertainer of the Year*. He is also an Assistant Professor in the Occupational Therapy Department of the University of Alabama at Birmingham. He is widely considered the leading authority on the educational use of magic in helping students achieve academic and functional goals. He has had the privilege of conducting Professional Development and Continuing Education workshops, seminars and in-service programs for Educators, Administrators, and Therapists around the world.

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