The Impact of the Program Cloud9World on Elementary School Student Behavior in Persistently Low Achieving Public Schools:
Miami Dade Public Schools, Florida

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by

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INTRODUCTION

Cloud9World was first launched in 2010 as a reading literacy program aimed at developing the socio-emotional skills and values of elementary school students. While *Cloud9World* focuses on the academic reading growth of elementary school students, it simultaneously seeks to promote positive social-emotional skills of the students through developing self-confident, respectful children with a greater sense of self-awareness and reverence, and the capacity of making responsible decisions as they strive to become ethical citizens.

The *Cloud9World* approach to promoting social-emotional growth utilizes literacy-based activities through books whose narrative, in multiple languages, contributes to positive student growth in social skills, behaviors and language acquisition. This report is based upon an analysis of data collected using a Quasi-experimental research design conducted over a four-year period in ten elementary schools housed in the Miami Dade Public School System. The research protocol utilized a two group (treatment/control group) pre-test/posttest design. Establishing baseline equivalence will be discussed later in the report.

This evaluation is specifically for the purpose of providing an overview of the impact of the *Cloud9World* literacy program in the treatment schools on student problem behaviors in the schools. As stated previously, the subjects in this report, discussed in detail later, are students, specifically kindergarten to 5th grade students, attending elementary schools in Miami Dade Public School System.

Cloud9World

The following is a summary of the development of Cloud9World program:

Cloud9World was established in 2010 with the purpose of providing teachers and parents with a collection of books on characters strengths. A set of basic lesson plans supported the initial 24 books. In 2011, Dr. Pamela Bruening joined *Cloud9World* as the Director of Curriculum and Development. Dr. Bruening and her team developed a comprehensive literacy-based curriculum, assessments and many resources to support the initial 24 books. At that time, *Cloud9World* began piloting its programs in four (4) schools located in Florida, Rhode Island, and Texas. Immediate results were experienced with the implementation of *Cloud9World*. One school in Florida continued the implementation and registered a decrease of 90% in ODRs within in a two-year period.

In the years following their initial implementations, *Cloud9World* expanded its collection of books to 30-character strengths. The company piloted the program in 15 schools in New York City, and then began working with Miami Dade County and Broward Country Public Schools. Due to the incredible results the program was having at schools and at home, international distributors showed their interest and began implementation in countries throughout Latin America.

Today, *Cloud9World* seeks to provide a complete SEL Solution. With well over 50 book titles encompassed in five (5) different programs, an assessment platform, online professional development, and a plethora of online resources, *Cloud9World* is able to provide schools with a comprehensive SEL program. A robust social, emotional, and academic learning program, *Cloud9World* supports students in developing self-regulation and SEL skills through character exploration and development in a student-friendly

manner. All *Cloud9World's* programs are designed to build upon one another and are customizable based on district/school data and the specific needs of students. *Cloud9World's* programs are literacy-based and easily implemented in any classroom to support reading, writing, listening, and speaking. Available in both English and Spanish, *Cloud9World* is currently operating in 11 countries around the world.

Purpose of the Study

The purpose of this quasi-experimental design study is to examine the impact of the *Cloud9World* literacy-based program on the social-emotional learning competencies of elementary school students. Specifically, this study seeks to examine the program's impact on student classroom behavior as measured by data collected through discipline referrals for inappropriate behaviors in the school setting.

As such, this evaluation investigated two research questions. First, how does the use of a literacy-based SEL program impact student behavior in an elementary school setting? And second, specifically, how does how does the use of a literacy-based SEL program impact student behavior in elementary schools designated by the State of Florida as "persistently lowest achieving" by the Education Transformation Office (ETO)?

Historical Background of the ETO

The Education Transformation Office was developed in 2010 to serve 19 schools designated by the Florida Department of Education in conjunction with United States Department of Education as "persistently lowest-achieving". At that time, schools designated as such included six (6) elementary schools, three (3) middle schools and 10 high schools. The list has grown since. A School Improvement Grant of 14 million

dollars was established for each of the next three years to address this issue. Through these funds, the ETO is able to provide instructional, curriculum, intervention, and wrap-around support to Tier 3, Tier 2, and Tier 1 Watch schools within the Miami Dade district as identified using the District Support Formula. This formula was created to ensure all schools, regardless of geographical location, are provided with the appropriate level of support to sustain growth beyond one year. This approach places an emphasis on developing sustainable practices within individual schools to ensure that over a three-year period they can autonomously support and implement high academic standards. It is through this grant that five Miami Dade Schools elementary schools first elected to implement the *Cloud9World* curriculum.

METHODOLOGY AND PROCEDURES

Research Design

For the purpose of this study, a Quasi-experimental research design was utilized. This approach, using a non-equivalent groups design, established a control group and treatment group based upon school decision to utilize or not utilize the *Cloud9World* curriculum. According to Campbell and Stanley (1963), random assignment is the optimal procedure for establishing equivalence of groups on both measured and unmeasured characteristics that may be associated with outcomes, but was not practical for this assessment. Thus, any post-intervention differences between groups in outcomes were evaluated using statistical analysis measures that adjust for baseline equivalence factors.

The primary threat to demonstrating causal effects of treatment in the study could easily have been selection bias by the researchers conducting the study. If left to researcher discretion, it is quite possible that those schools whose students already had a low rate of behavior problems, or other impacting factors, would have been selected as treatment schools. Treatment schools were selected simply because they elected to implement the program school wide. This was important because it would be quite possible that administrators would specifically assign the *Cloud9World* curriculum only those teachers whose students demonstrate a propensity towards demonstrating positive behaviors in school or whose students are already reading at a higher level. Use of a baseline equivalence procedure helps somewhat eliminate the possibility that such selection factors could plausibly account for any observed differences in outcomes between the treatment and comparison groups.

This study proposes to compare two approaches for addressing problem student behavior in kindergarten through 5th grade students attending elementary schools in an urban setting. The first approach, assigned to the treatment group, used the literacy-based curriculum developed by *Cloud9World Corp*. This curriculum was developed specifically to assist students with academic growth in literacy while instilling in them behaviors associated with positive social emotional growth.

For the control group, no specified treatment was applied. To that affect, the strategy was consistent with traditional literacy instructional techniques used in schools for addressing academic growth in literacy and problem behaviors. No specific curriculum was assigned to the control group, rather, individual schools simply chose to use other materials than those of the treatment schools.

Subjects

The subjects for the study consisted of students attending 10 elementary schools in the Miami Dade Public School System. As stated previously, these schools had all been designated as "persistently lowest-achieving" by the ETO. During the first school year of the study (2015 – 2016), 2073 students were enrolled in grades K-5 in the treatment schools, while 1989 were enrolled in K-5 in the control schools. The breakdown of demographics of the students per school are given in Table 1 below:

TABLE 1 – Demographic Breakdown 15-16

TREATMENT	TOTAL	White%	Black%	Hisp%	Other%
Treatment 1	452	0.4	92	6.8	0.7
Treatment 2	507	0.6	90.5	6.5	2.4
Treatment 3	308	0	96	4.2	0
Treatment 4	359	0.6	93.3	5.2	0.8
Treatment 5	447	0.2	92.8	5.3	1.5
Totals	2073	0.4	92.6	6	1.2
CONTROL	TOTAL	White%	Black%	Hisp%	Other%
Control 1	373	1.1	76.1	20.3	2.2
Control 2	667	1.6	52.6	35.1	10.3
Control 3	331	1.8	79.1	18.1	0.3
Control 4	279	1.8	54.4	41.2	0.3
Control 5	339	0.6	91.4	7.3	0.8
Totals	1989	1.4	68.3	26	4.2

As stated above, students participating in the study ranged in grades K through 5, the majority of which participated in the free and reduced lunch program (See Table 2).

During the fourth school year of the study (2018 – 2019), 2073 students were enrolled in grades K-5 in the treatment schools, while 1989 were enrolled in K-5 in the control schools. The breakdown of demographics of the students per school are given in

Table 3 below. As was the case previously, the majority of the students participated in the

free and reduced lunch program (See Table 4).

Table 2 – <u>Free and Reduced Lunch Percentages 16-17</u>

TREATMENT	TOTAL	FRL%
Treatment 1	452	90.7
Treatment 2	507	86.3
Treatment 3	308	96.4
Treatment 4	359	96.1
Treatment 5	447	90.6
Totals	2073	91.4
CONTROL	TOTAL	FRL%
Control 1	373	98.1
Control 2	667	94.3
Control 3	331	98.2
Control 4	279	99.3
Control 5	339	98.8
Totals	1989	97.1

TABLE 3 – <u>Demographic Breakdown 18-19</u>

TREATMENT	TOTAL	White%	Black%	Hisp%	Other%
Treatment 1	487	2.1	86.4	11.1	0.4
Treatment 2	451	0.7	88.8	9.3	1.3
Treatment 3	263	0.4	88.6	9.9	1.1
Treatment 4	258	1.6	87.2	10.5	0.7
Treatment 5	443	0.5	88.3	10.6	0.4
Totals	1902	1.0	87.8	10.3	0.8
CONTROL	TOTAL	White%	Black%	Hisp%	Other%
Control 1	455	0.2	69	30.5	0.2
Control 2	293	1.4	62.5	33.1	3.1
Control 3	361	1.1	80.6	18.3	0.0
Control 4	362	1.1	48.1	50.6	0.3
Control 5	312	1.0	90.1	8.7	0.3
Totals	1783	1.1	71.9	28.7	0.7

Table 4 – <u>Free and Reduced Lunch Percentages 18-19</u>

TREATMENT	TOTAL	FRL%
Treatment 1	487	86.7
Treatment 2	451	84.5
Treatment 3	263	89.4
Treatment 4	258	90.7
Treatment 5	443	85.8
Totals	1902	86.8
CONTROL	**TOTAL**	**FRL%**
Control 1	455	94.5
Control 2	293	92.2
Control 3	361	94.2
Control 4	362	93.1
Control 5	312	97.8
Totals	1783	97.3

Treatments

The independent variable in this study is the treatment applied in each school**.** The use of the literacy-based curriculum developed by *Cloud9World Corp* was assigned to the treatment group. To reiterate, this curriculum was developed specifically to assist student growth in literacy while instilling in them behaviors associated with positive social emotional growth. No specified treatment was applied to the control group. Individual schools assigned to the control group utilized materials not associated with the *Cloud9World* curriculum.

The *Cloud9World* curriculum was first introduced to the treatment schools during full school faculty and staff presentations at each school during required meetings. The date and times of these meetings varied between August and September as each school elected to start with their first set of character strengths. Representatives of *Cloud9World* conducted school faculty training sessions for the purpose of introducing each school to the *Cloud9World* curriculum materials. During these sessions, faculty and staff members

were given opportunities to review each character strength being introduced in the coming year (one strength per month) and the books associated with the curriculum. After initial review, best practices of the immersion rollout process were discussed. These face-to-face introduction sessions took place at the start of every school year during the study to ensure that newly hired teachers had a working knowledge and understanding of the program, and that every staff member was familiar with the character strengths they would be incorporating as part of instruction throughout the year.

A counselor in each of the treatment schools was designated as the *Cloud9World* point person. As part of continuous follow-up, every trimester, a *Cloud9World* representative visited each school counselor to join them in evaluating implementation fidelity through the process of walk-throughs, answering questions, and introducing any new support materials. Together, the counselor and the *Cloud9Worl*d representative examined school data for changes and noted other observed affects associated with the use of the program.

There were several variables of interest in the application of the material: behavior problems in the classroom; repetition of problem behaviors; and academic achievement in literacy. All dependent variables associated with problem behaviors could easily be measured using standard school report forms for reporting disciplinary data to the State Department of Education (FLDOE). Similarly, the academic achievement variable could be easily tracked using standard achievement school report forms for reporting assessment data. For the purpose of this evaluation, only disciplinary data reported to FLDOE was utilized.

Data Collection Procedures

Data collection began during the first year of implementation of the curriculum during the 2015-2016 school year and was completed at the culmination of the 2018-2019 school year. As stated previously, an explanation of the *Cloud9World* material was presented to the faculty and staff at each treatment school during that initial year.

At the completion of each school year, the administration of each designated school for the study, submitted all behavior data for the school year to the FLDOE via standard school forms for reporting disciplinary data. The researchers for this evaluation, were provided the data from these reports for each year of the study's duration.

Variables

The dependent variable in this study is the number of discipline referrals reported by schools associated with the study. These reports reflected student discipline data in two categories, category one was the number of students referred to the office only once during the school year, category two listed the number of students referred to the office on multiple occasions (2 or more). For the purpose of this evaluation, the second category is referred to as "recidivism" in the data analysis section of this report.

The independent variable is the treatment applied to the student. Initial statistical analysis of the data will be performed using descriptive statistics on various variables and factors associated with either student demographics or behavioral data outcomes. Additionally, since random assignment was unable to be applied to this study, a Cohen's *d* analysis was performed to evaluate baseline equivalence during the first year of implementation. As stated above, randomization was not utilized for this assessment. As

such, an ANCOVA test was used to adjust for covariates that may impact any post-intervention differences between groups in outcomes.

STATISTICAL ANALYSIS AND RESULTS

To answer the research questions proposed in this study, a number of statistical tests were utilized. The data collected were analyzed using the Statistical Package for the Social Sciences on the personal computer of the researcher. In order to characterize the data, descriptive statistics were first generated. The descriptive statistics assisted in describing and summarizing the data to provide a better understanding of the distribution of the variables. Table 5 shows the descriptive statistics run on the Free and Reduced Lunch Count and Table 6 reflects the Student Ethnicity demographics for the five treatment and five control group schools. This data was used for the purpose of evaluating baseline equivalence via a Cohen's *d* test.

Table 5 – Free and Reduced Lunch Descriptive Statistics

Treatment		Control	
Statistic	FRL CNT	Statistic	FRL CNT
Nbr. of observations	5	Nbr. of observations	5
Minimum	297.000	Minimum	277.000
Maximum	438.000	Maximum	629.000
Range	141.000	Range	352.000
Mean	379.000	Mean	386.400
Variance (n)	2599.600	Variance (n)	15530.240
Standard deviation (n)	50.986	Standard deviation (n)	124.620
Variation coefficient (n)	0.135	Variation coefficient (n)	0.323
Lower bound on mean (95%)	308.220	Lower bound on mean (95%)	213.399
Upper bound on mean (95%)	449.780	Upper bound on mean (95%)	559.401
Standard error of the variance	2297.743	Standard error of the variance	13726.923

Table 6 – Ethnicity Descriptive Statistics

Treatment		Control	
Statistic	Minority	Statistic	Minority
Nbr. of observations	5	Nbr. of observations	5
Minimum	308.000	Minimum	272.000
Maximum	504.000	Maximum	656.000
Range	196.000	Range	384.000
Mean	413.000	Mean	391.000
Variance (n)	4980.000	Variance (n)	18518.000
Standard deviation (n)	70.569	Standard deviation (n)	136.081
Variation coefficient (n)	0.171	Variation coefficient (n)	0.348
Lower bound on mean (95%)	315.034	Lower bound on mean (95%)	202.089
Upper bound on mean (95%)	510.966	Upper bound on mean (95%)	579.911
Standard error of the variance	4401.740	Standard error of the variance	16367.754

For the purpose of evaluating baseline equivalence, a Cohen's d test was run on two separate variables: Free and Reduced Lunch Count and Student Ethnicity as these characteristics may have an impact on outcomes associated with the treatment. As stated previously, the purpose of these tests was to help determine effect-size during first year of implementation. The results of these tests indicate a moderate effect when evaluating Free and Reduced Lunch Count numbers (Cohen's $d = 0.077723$) when compared with Cohen's guidelines (moderate effect, $0.05 \leq d \leq 0.25$) and Minority Count numbers, as defined by the United States Census Bureau (Cohen's $d = 0.202965$). These findings reveal that a statistical adjustment is required to satisfy baseline equivalence. According to the What Works Clearinghouse Group recommends to evaluate the data utilizing an ANCOVA analysis for such cases.

To evaluate the discipline referral data, both descriptive statistics and ANCOVA tests were run. Descriptive data were used as an initial analysis tool to evaluate frequencies and mean differences between the control group and treatment group for

"Total" number of discipline referrals (one referral only + recidivism numbers = Total)

for each group. Table 7 shows the descriptive statistics run on the Discipline Referral

data for the 15-16 school year and Table 8 reflects the Discipline Referral data for the 15-

16 school year for the five (5) treatment group and five control group schools.

Table 7 – Discipline Totals 15-16 Descriptive Statistics

Treatment
Descriptive statistics (Quantitative data):

Control
Descriptive statistics (Quantitative data):

Statistic	Totals	Statistic	Totals
Nbr. of observations	5	Nbr. of observations	5
Minimum	20.000	Minimum	42.000
Maximum	75.000	Maximum	160.000
Range	55.000	Range	118.000
Mean	41.200	Mean	78.800
Variance (n)	423.760	Variance (n)	1789.360
Standard deviation (n)	20.585	Standard deviation (n)	42.301
Variation coefficient (n)	0.500	Variation coefficient (n)	0.537
Lower bound on mean (95%)	12.623	Lower bound on mean (95%)	20.077
Upper bound on mean (95%)	69.777	Upper bound on mean (95%)	137.523
Standard error of the variance	374.554	Standard error of the variance	1581.586

Table 8 – Discipline Totals 18-19 Descriptive Statistics

Treatment
Descriptive statistics (Quantitative data):

Control
Descriptive statistics (Quantitative data):

Statistic	Totals	Statistic	Totals
Nbr. of observations	5	Nbr. of observations	5
Minimum	4.530	Minimum	54.240
Maximum	89.750	Maximum	286.810
Range	85.220	Range	232.570
Mean	41.376	Mean	112.528
Variance (n)	936.954	Variance (n)	7739.990
Standard deviation (n)	30.610	Standard deviation (n)	87.977
Variation coefficient (n)	0.740	Variation coefficient (n)	0.782
Lower bound on mean (95%)	-1.117	Lower bound on mean (95%)	-9.604
Upper bound on mean (95%)	83.869	Upper bound on mean (95%)	234.660

Standard error of the variance   828.158   Standard error of the variance   6841.249

Discipline Referral Data

Data from the FLDOE Database reports were analyzed using an ANCOVA calculated with the Statistical Package for the Social Sciences for multiple scale covariates. The discipline data from FLDOE Database reports were used to determine number of office referrals per grade level per school in each group. The raw data results are set out in Table 9.

Table 9 – Discipline Referral Data

Treatment Group	1 Ref 19	Recid 19	Totals	1 Ref 16	Recid 16	Totals
Treatment 1	57	32	90	36	39	75
Treatment 2	22	12	34	18	15	33
Treatment 3	5	0	5	10	14	24
Treatment 4	46	15	61	29	25	54
Treatment 5	13	4	18	15	5	20
Control Group	**1 Ref 19**	**Recid 19**	**Totals**	**1 Ref 16**	**Recid 16**	**Totals**
Control 1	56	33	89	26	23	49
Control 2	193	93	287	71	89	160
Control 3	41	19	60	36	34	70
Control 4	36	36	73	29	13	42
Control 5	44	10	54	40	33	73

For the purpose of testing the impact of the treatment, the numbers of repeat offenses within each grouping were compared using an ANCOVA. For the purpose of controlling for any impact socioeconomic status may have, the FRL Count data was set as the covariate, with treatment set as the fixed factor and Totals the dependent variable. The results of this analysis reveal a statistically significant difference [$F(1,7) = 14.76$, $p =$

.006] between the treatments while adjusting for socioeconomic status as measured by Free and Reduced Lunch Count numbers.

Similarly, an ANCOVA test was run for the purpose of controlling for any impact minority status may have, the Ethnicity data was set as the covariate, with treatment set as the fixed factor and Totals the dependent variable again. The results of this analysis reveal a statistically significant difference [$F(1,7) = 11.74$, $p = .011$] between the treatments while adjusting for minority status as measured by Ethnicity numbers.

Summary

This section described the results of quantitative data collected and analyzed to answer the question of the impact of the *Cloud9World* curriculum on problem student behavior in an urban elementary school setting. Although not stated, it was hypothesized that the use of the *Cloud9World* curriculum program in an such a setting would be associated with a greater reduction in the number of discipline referrals of students in an elementary school setting as compared to traditional approaches. The results revealed that there was statistically significant difference ([$F(1,7) = 14.76$, $p = .006$] while adjusting for socioeconomic status and [$F(1,7) = 11.74$, $p = .011$] while adjusting for minority status) between the two approaches in reducing problem behaviors that lead to discipline referrals.

CONCLUSIONS and DISCUSSION

Discussion

This study identified the impact of a literacy-based social-emotional learning curriculum initiative on problem student behavior. Statistically significant effects were observed. Providing students with academic based character development opportunities,

such as the *Cloud9World* literacy curriculum, especially students attending an urban elementary school program with a high minority and free and reduced lunch population, can prove to be effective in reducing problem student behavior while developing positive social skills. The research literature supports this claim.

Expansion in the application of the curriculum and materials may also prove beneficial. While quantitative data reflected a statistically significant difference in outcomes between the two study groups, conversations with staff and students suggest the program served as an outlet for an improved awareness of self and positive social skills. Students and staff felt that the interactions that occurred as part of the process provided two beneficial outcomes: first, according to survey data, students felt that there was an improved school climate in the schools; and, second, students got a greater sense of individual character traits associated with positive social skills.

In addition, there may be hidden benefits to the application of social emotional literacy curriculum within schools. While not part of this study, raw data numbers showed a strong positive growth in English Language Aquisition (ELA). Table 10 below shows ELA percentage pass rate numbers for two of the treatment and control group schools during the last three years of the study. Further investigation is needed to evaluate true impact of the program on academic achievement in ELA.

Table 10 – ELA Achievement Data

ELA Achievement School	Year 14-15	Year 15-16	Year 17-18
Treatment A	36%	25%	46%
Treatment B	40%	42%	49%
Control A	56%	33%	41%
Control B	31%	30%	43%

A couple of limitations to this study should be addressed. First, the process by which the participating schools were selected did not allow for randomization of subjects. By nature of the program, all students attending a participant school were considered part of the study, an ill effect of this action was that the two grouping sizes were imbalanced prior to the implementation of the study. In addition, not all students in the schools were referred to the principal's office for disciplinary reasons, further affecting sampling size problems. A more beneficial approach would be to use the randomization process in selecting participants.

Second, new hires annually made the implementation of the *Cloud9World* literacy curriculum less fluid. Due to the nature of teacher turn over and the impact on classroom climate, the consistent implementation of the *Cloud9World* literacy curriculum may have been somewhat difficult.

Conclusions

This study was embarked upon to answer questions around the impact of a literacy based social emotional learning curriculum on problem student behavior in urban elementary schools classified as "persistently lowest-achieving" schools by the ETO. Specifically, the study evaluated the use of the *Cloud9World* literacy curriculum program on reducing problem student behaviors. An analysis of the data demonstrated the impact of the program on behaviors leading to discipline referrals was statistically significant while adjusting for possible impacting covariates.

In interacting with staff and students, an overall satisfaction with the use of the program was discovered in the treatment schools. Administrators and teachers found the program to be beneficial in opening doors for dialogue leading to a better understanding

of positive social skills. Subsequently, these dialogues lead to expanded opportunities for redirecting student problem behavior.

The findings of the data and conversations support the research literature on the benefits of inclusion of instruction aimed at growth of students in social emotional learning (e.g. Blum, 2005; Collaborative for Academic, Social, and Emotional Learning, 2013; Durlak, et al, 2011; Jones & Bouffard, 2012; Weissberg & Cascarion, 2013). In addition, the results of this study indicate that the implementation of a literacy-based curriculum may be associated with improved academic achievement.

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