Educating at a Distance: A Redistribution of Roles

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Altamonte Springs, Florida

Published on June 3, 2020

A white paper is an authoritative business document intended to fully inform the reader on a particular topic. It combines expert knowledge and research that argues for a specific solution or recommendation. The white paper allows the reader to understand an issue, solve a problem, or make a decision.

ABSTRACT

This educational white paper is being written in the wake of school closures resulting from the CoVid-19 pandemic. As the necessity for distance learning has become apparent in order to reduce the spread of CoVid-19, the burden of the education of school children has shifted from teachers to parents. In this white paper, the author examines the components of instruction, the degree of shift in each, challenges associated with each, and proffers recommendations for schools and parents to manage these changes. Instructional and social-emotional components of education are discussed. Surveys of students and parents, observational feedback, and analysis of work produced, are employed to target problems and viable solutions and recommendations are made in regard to these findings.

LIMITATIONS

As survey responses were not required, data sets are small. Responses of nineteen parents and eight students are reported here. Although recommendations vary dramatically, data findings are similar to those reported in Florida's Orange and Broward County Public Schools, lending support to these findings (BCPS, 2020; OCPS, 2020). A second limitation is the absence of standardized testing following the application of distance learning procedures. Ideally, researchers would have compared

previous standardized tests to post-study standardized tests. However, this comparison is not possible given distancing restrictions during the lockdown. By the time teachers might be able to test students, after the passage of Summer holidays, regression will likely have occurred, rendering test results invalid. An additional limitation of this study is the necessity of a three-phase format. At the time of lockdown, it was not possible to deliver all of the services to all of the students, or to even know what would be optimal. A final limitation is the size and scope of the school. Twenty-four students attend the school. Socio-economic status of families is middle-class. The school provides a 'boutique' approach to the education of students with learning difficulties, and has little or none of the challenges of a large public school. Findings are intended to answer questions and solve problems specific to a small private 'boutique' school for children with learning difficulties and its students and their parents. Data and solutions reported here may also inform stakeholders with sub-populations similar to that of Chrysalis School.

PROBLEM STATEMENT

The emergence of CoVid-19 and the resulting 'stay at home' orders that followed, resulted in a shift in the burden of instructional and social-emotional responsibilities of schools from teacher to parent. Teachers and parents alike struggle to manage this shift and ensure the continued instructional and social-emotional progress of their students and children.

BACKGROUND

Chrysalis School is a private for-profit corporation licensed by the Florida Department of Education to deliver school services to children under the guidelines of the Division of Choice operating under Legislative rule. Chrysalis School was founded in 2007 as a division of Read America, Inc., a Florida for-profit corporation founded in 1994. Instructional staff at Chrysalis School employ a variety of educational methods, including Montessori, Phono-Graphix®, and Applied Behavior Analysis (McGuinness, 1996; Montessori, 1909, 2004; Skinner, 1953, 1974). Staff delivery of instruction is based

upon an educational formula developed by Dr. Carmen McGuinness, which includes the following:

- **Direct instruction** for all new skills, information, and concepts, with the understanding that the 'active ingredient' of direct instruction is error-pattern analysis with immediate re-instruction specific to the error.
- **Monitored practice** for skills being accomplished below seventy percent accuracy.
- I**ndependent practice** for skills being accomplished at or above seventy percent accuracy.

Chrysalis teachers recognize the limitations of distance learning in regard to direct instruction in particular. Direct instruction can be thought of in terms of three components.

1. **Timing**, or when to teach specific content.
2. **Finding or developing specific content and its medium of delivery**. In other words, what to teach, how visual or tactile the material should be, and the difficulty level that a particular student can tolerate.
3. **An intuitive or empathetic connectedness to the intellectual and emotional state of the student during delivery.** In other words, sensitivity to what the student understands or is having trouble understanding, and a sense of his level of interest versus anxiety to information that is difficult.

In schools employing Behavior Analytic principles and methods, reinforcement is given following student cooperation and effort during instruction. Responsiveness of the student in future lesson delivery is directly affected by this previous history of reinforcement. At Chrysalis School, students move, throughout the school day, between four contingencies delivered in three classrooms.

Classroom one- Direct and Monitored Instruction Classroom
1. Students receive direct one-on-one and small group instruction in new material.

2. Students are assigned practice activities which they have previously performed below seventy percent accuracy. Direct instruction teachers monitor student performance and provide correction and reinstruction as needed.

Classroom two- Study Hall

3. Direct instruction teachers send students to Study Hall with work which they have previously performed at a minimum accuracy of seventy percent. Study hall is overseen by a Board Certified Behavior Analyst. Students are permitted to visit quietly while working.

Classroom three- Break Room

4. Students move to a Break Room where they are permitted to move about, socialize, and play games. The Break Room is monitored by a Board Certified Behavior Analyst.

METHOD

In this section, the methods used to identify the needs of students and parents are reported. When schools were closed by Gubernatorial order, Chrysalis administration and staff responded with the first in a three-phase process. Each phase was approximately three-weeks. The first phase was pressing and obvious, and it was determined that phases two and three would be informed by the preceding phases. A description of each phase follows, with full results in the next section.

Phase 1. During phase one, the staff worked together to select a virtual platform, set up virtual classrooms, and make instructional activities available so that students retained previously learned material. During this period, Chrysalis re-opened as a virtual school, with thirteen classes providing instructional activities across the curriculum, with students assigned to classes by age and ability level. The activities that were assigned were approximately fifty-percent monitored practice and fifty-percent independent practice. No new instruction was delivered during this three-week period. A fourteenth class was provided for behavioral support, with activities targeting emotional well-being, assuring

students that they are safe, and helping students understand the importance of staying home during this time.

Phase 2. During phase two, and amidst teacher concerns that students need direct instruction, we began experimenting with delivery on a HIPAA secure live video platform. Four students were selected for once per week sessions to teach new material and provide monitored review of material previously performed at an accuracy rate of under seventy percent to students in grades three and above. Three students were selected for once per week parent coaching sessions to guide parents in direct instruction of students in kindergarten, first, and second grades.

A parent survey further informed us that in addition to direct instruction, parents were concerned that their children were missing social interaction with other students and a sense of community, or *connectedness* to school. A Monday morning arrival meeting and Friday afternoon play date were added via the above-mentioned platform, as well as an 'After School' class featuring twice per week staff-created video activities like cooking, story-telling, and puzzles.

Phase 3. Phase three occurred during the last three weeks of the semester. A town-hall meeting with parents and a student survey were conducted. The school administrator provided a twenty-minute video primer on motivating students. And student art and short films were featured in a virtual art and film festival, followed by a live virtual reception to honor students' work and present awards. This phase was also utilized to assess quality and quantity of student work as compared to the period from January 6 2020 through March 13, 2020.

DATA COLLECTION AND FINDINGS

Parent data collection was completed through a survey feature on Constant Contact. Student data collection was accomplished through a Canvas quiz feature that can be used to collect survey data. Town Hall feedback was gathered on live video feed using the administrator's professional subscription to securevideo.com. Data was also collected via interview of parents requesting phone contact. Teacher input was gathered during ongoing video, voice, and text communications throughout all three phases.

Findings of Parent Data Collection

Employment status of parents. Six percent of parents reported that they were 'stay at home moms' before CoVid, with six percent employed and working from home, and eighty-eight percent working outside of the home. Since CoVid, forty percent are working from home, fifty percent are essential workers, working outside the home, and ten percent have been furloughed.

Gender and age distribution. Gender distribution is unremarkable, with fifty-three percent male, and forty-seven percent female. There is no statistical difference in age of male and female students. Twenty-six percent are age five to ten, and seventy-four percent are age eleven to seventeen. Likewise, there is no statistical difference in the employment status of parents before and since CoVid for male and female students.

Living situation. The distribution of living situation is statistically similar for male and female students. Sixty percent of the students are in two parent homes. Twenty-six percent travel between two homes. Fourteen percent live with one parent.

Degree of reported difficulty in parent delivery. The degree to which parents find delivery of distance learning difficult seems to be associated with the gender of the child, with the majority of parents of females reporting that working with their child on distance learning assignments is 'not difficult' to 'moderately difficult'; while the majority of parents of males report that it is 'moderately difficult' to 'very difficult'.

What makes distance learning difficult? The majority of parents of males and females alike report that the two greatest challenges to distance learning are 'difficulty in motivating the child' to do school work and 'demands on parent's time'. 'Finding it difficult to teach educational content' without teacher training and 'technological challenges 'tied for second place. "I resent having oversight of distance learning' was ranked last by parents of males and females alike.

Time spent on school work. Seventy-five percent of parents reported that they spent "considerably more time" to "a lot more time" working with their children on distance learning assignments than they had done on homework alone; with the remaining twenty-five percent reporting 'no change' to 'a little more time'.

What do parents miss most? 'Socialization' and 'direct instruction' were ranked most important among school components missing from distance learning. A 'sense of community' was next, with 'childcare' ranked least important. Individual respondent analysis by age of the child, reveals that childcare is ranked above sense of community by parents of younger children. This appears to be an artifact of employment status of these particular parents.

Behavior change. Forty-eight percent of parents reported 'no change' in behavior. Twenty-six percent reported their child's behavior was 'somewhat worse'. Fourteen percent reported behavior was 'somewhat better'. On the ends of the curve were six percent reporting behavior was 'much worse', and six percent reporting behavior was 'much better'. We pulled out the forty-six percent whose parents reported 'no change', and analyzed the remaining fifty-four percent. Of these, sixty-two percent reported worsened rather than improved behavior. This indicates that approximately half of the students had no change in behavior, and approximately half demonstrated behavior change. Among the half that changed, sixty-two percent demonstrated worsening behavior.

Are there positive aspects to distance learning? Eighty percent of parents reported they have a better understanding of their child's learning challenges since they began overseeing distance learning. Sixty percent report they enjoy spending more time with their child. Forty percent feel it is positive that their child has more time to spend exploring his or her other interests. And thirty-three percent, respectively, said that they enjoy spending time with their child on shared interests, and that they feel their relationship with their child has improved.

Further questions for consideration:

Is it harder on single family homes? Responses indicate that there is no significant difference in difficulty overseeing virtual education from home reported by parents of single versus two parent homes, with no significant difference in age of gender of the child in parent responses.

Is it easier/harder for parents who are working at home, versus essential workers, working outside the home? Responses indicate that for parents

working from home, oversight of older children (9-17) is easier, but more difficult for parents of young children (6-8).

Should the number of hours spent on school work be shorter to allow for the positive effects noted above? is a question that has been asked by teachers and parents alike in recent years (Wood, 2012). Are extra-curricular activities and parent-child relationships failing due to the busy schedules of children, and the burden this places on all members of the family?

Will teachers be willing to return to bricks and mortar classrooms? is a question little considered in the popular media as of the publication date of this paper. In a USA Today poll, one in five teachers polled said they will not return to school in the Fall if schools re-open (USA Today, 2020). At Chrysalis School, we have a teacher retiring, two teachers who say they will continue working from home but will not return to the building until there is a vaccine, one who is undecided, and one who says she is willing to take on aftercare responsibilities for children in attendance.

Findings of Student Data Collection

When asked 'Were you able to learn online?' Thirty-eight percent of student respondents answer 'Yes'. Sixty-two percent responded 'Yes, but not as easily as at school.' And no one responded 'No'.

In response to 'How many days per week did you work?' and 'How many hours did you work on those days?' students reported an average of 4.5 days per week and 3.75 hours per day worked. This indicates that the average number of hours per week was 16.5.

When asked, 'Which do you prefer, coming to school or learning online?' sixty-two percent responded 'Coming to school' and thirty-eight percent reported that they prefer 'Both equally'. No one reported that they prefer 'Learning online'.

When asked, "What is the most challenging thing about doing school work at home?" thirty-eight percent responded 'I put it off', thirty-eight percent responded, 'It's boring,' and twenty-four percent responded 'I have to wait for

my mother or father's computer'. None of the students reported lack of a place to work, distractions in the home, or not understanding what to do.

When asked, "If learning from home was the only option, how many times per week would you want to meet with a teacher?" fifty percent responded 'once per week', twenty-five percent responded 'twice per week', and twenty-five percent responded 'I don't need to meet with a teacher'.

When asked, "Have you enjoyed meeting with friends online during Friday playdates?" sixty-three percent of students responded 'Yes', twenty-five percent responded 'It's okay', and thirteen percent responded 'No'.

When asked, "Do you think it's possible for kids to be at school and remain six feet away from other kids at all times?" Fifty percent responded, 'No' to this safety and health precaution of the Centers of Disease Control (CDC, 2020). Fifty percent responded 'I would have trouble doing it', no one responded 'yes' or 'I could do it but others would have trouble'.

When asked, "Do you feel safe at school?" thirty-eight percent responded 'only if there's a vaccine', thirty-eight percent responded 'Yes', and twenty-four percent responded 'No'.

Observations Made During Town Hall Meeting, Individual Voice Interviews, and Parent Coaching Sessions

Data for these two areas are informal as observed by the school administrator. Parents report two main areas of concern:

1. Many parents expressed frustration regarding their ability to do their own work from home while also insuring that students complete their lessons.
2. Parents whose children did not receive direct instruction via live video reported continuing concerns that direct instruction is needed. None of the parents whose children were included in the experimental group expressed this concern. It is also noteworthy that parents of young students reported significantly less frustration over distance learning. It is possible that the parents of younger children are more accepting of educational responsibility because their children are younger and more dependent upon them, and because they are nearer to a

time when all learning was delivered through the parent, e.g. language development, personal care, safety, and manners.

Findings Regarding Quality, Accuracy, and Quantity of Work Production

Analysis of work production was split into younger students (kindergarten through grade two) and older students (grades three through twelve). Assessment of quality of work was conducted by teachers, with interrater reliability provided by the school administrator for fifty percent of assignments across all age groups. An interrater reliability of ninety-six percent was established. Younger students produced approximately ten percent less work than they had prior to the lockdown. Among older students, fifteen percent produced more work online than they had prior to the lockdown. Fifteen percent produced less work than they had before the lockdown. Accuracy does not appear to have changed, which was to be expected as only those students receiving direct instruction received lessons in new material. Quality of work, although not easily measured, was noticeably worse than before the lockdown during the first phase of the study, and significantly better than before the lockdown during the remaining two phases. It is possible that direct feedback from teachers in a 1-10 grading scale is more attention getting than the ratio of correct to incorrect which was used before the lockdown. It is also possible that parent's immediate access to grades, as compared to receiving graded work every Friday, afforded parents the opportunity to provide immediate contingencies to students.

DISCUSSION AND PROPOSED SOLUTION

Five findings and potential solutions are highlighted through this study.

Direct instruction. While maintenance of previously learned material can be accomplished through a distance learning platform that delivers teacher-designed assignments and allows for written feedback of teacher assessment, delivery of direct instruction with real-time interaction, in particular error pattern analysis and immediate reinstruction as needed, is critical to new learning for this student population.

A solution to this finding is the use of a live real-time video platform for direct instruction of new material for learners in grades three through twelve, and coaching for parents of students in kindergarten through second grade. One to two-hours per week of direct instruction was found to be effective for students in grades three through twelve, even for the most challenged students, for a sufficient amount of new material to keep students on a progress trajectory. For younger students, one-hour of parent coaching appears to be sufficient to prepare parents to deliver the week's lessons.

Student behavior. Student willingness to start and complete assignments at home appears to be contingent upon reinforcement *following* work compliance, a basic tenet of Behavior Analysis. At school, '*first work, then break'* is written into scheduling, and is enforced without exception (Premack, 1959). A student who fails to complete his work will not make his way to the break room. A child whose work is unfinished when it is time for recess will miss recess in order to complete work. All reinforcement is a controlled substance. Conversely, observations conducted during home observations reveals that the homes of children who struggle to comply with parents tend to provide a continuous schedule of reinforcement (McGuinness, 2014). Televisions, iPhones, iPads, and an assortment of toys and games are at the fingertips of children from their earliest memory. As children approach school-age, pantries and refrigerators are often accessible without concern for meal schedules or the potential poorly-timed reinforcement value of the consumption of favored snacks before completion of assignments.

In addition to *work-avoidance*, *attention* has been found to be a function of problem behavior at school. To control this, teachers satiate students prior to work demands, to reduce the need for attention. In other words, they spend time and give attention to individual students when arriving at school, and between lessons so that they are not craving attention during lessons (Richman, et al, 2015). While parents may provide attention to their children, in-home observation reveals that parental attention of students with compliance difficulties often *follows* child problem behaviors. In this case, parental attention provides reinforcement of problem behaviors rather than preventing them (McGuinness, 2014).

A solution to this is extensive parent training in a behavior analytic approach to parenting as part of services. Although a 20-minute video in 'Motivating Learners' was provided in phase three, it may have been too little and too late. Additionally, it was offered informally, and not presented as a component of the overall plan. The school administrator has yearly offered her twelve-hour course 'Compliance and Parental Engagement (CoPE) for a fee (McGuinness, 2014). A shortened course, modified for specificity to assignment compliance, could be created for the purpose of supporting parents in obtaining child compliance to assignment related demands. Such a course could be offered at no charge over the summer months, in advance of the start of the school year and renewed demands on students.

In addition, students should not be required to wait to use parents' computers to do school work. Working from home has particular advantages, and one of them is that you can work when you feel motivated to do so. Student motivation should not be interrupted by the lack of a computer.

Socialization and a sense of connectedness to school. Survey results reveal that parents' primary concerns, after direct instruction, are socialization and a sense of connectedness to school.
A solution was provided with afterschool activities on a recorded video platform, Monday morning arrival, Friday afterschool playdates, and a virtual art and film festival. This solution could be expanded by making Monday morning arrival meetings required, breaking afterschool playdates into age groups, and adding additional art, music, and performance events occurring monthly.

Childcare. The care of students during parents' workday was ranked 'least important' by parents in this study. However, this survey was taken during stay at home orders, when childcare would have been important only for 'essential workers'. For parents who are not able to work from home and will be returning to their workplaces before schools safely reopen, child care will become critical. Certainly, there is an argument that childcare should not be a required function of schools. However, it is, by de facto of the number of hours in the school day, a means for parents to otherwise engage their children while they go to work. The impending need for childcare for some families will become apparent as businesses

re-open. However, sometimes great challenges within institutions serve to highlight weaknesses within those institutions. Amidst the challenges faced during the CoVid pandemic of 2020, it is critical that we do not weaken our educational programs by conflating the importance of the education of our children with their parents' need for childcare. Educators and parents alike, must make educational decisions based upon educational efficacy. Yes, schools can support parents' need for childcare. However, safety, and the fears and mental health of students, must play a part in decision-making and design of programs that provide such support.

The solution is to provide childcare for the few who need it, while continuing with distance learning for those who do not. The school building can re-open in the Fall, providing a skeleton staff for the purposes of childcare, while maintaining a distance learning platform. Parents could be given the choice between distance learning with onsite childcare at full tuition fees or distance learning from home at reduced tuition fees, providing incentive to keep children at home when possible. Smaller numbers of students and teachers in the building would help accomplish social distancing requirements as detailed by the CDC. Other safety considerations are discussed in the section on 'Student Safety/Mental Health at School' below.

Students' safety/mental health at school. As we see from student survey responses detailed in an earlier section, students will need reassurance and, by their own admission, behavioral management in order to maintain distance requirements and feel safe at school.

A solution to student safety and fears is multifaceted. Younger students can be segregated from older students so that groups are small. Behavioral management of distancing can be required when students are stationary in their assigned spots, with attention to rules surrounding egress and ingress to rooms. Bathrooms can be re-allocated to age-groups rather than Boys room/Girls room. Water fountains can be turned off and covered. Lunch can be taken in assigned areas rather than moving to the lunch room. All interior surfaces, such as, tables, counters, chairs, toilets, and handles can be cleaned daily. Outdoor recreation can be limited to the sunny side of the school, which is believed to help kill the virus, and is an area with no shared surfaces. Students can be taught to understand what six feet looks like, and taught to maintain distance while in motion through behavioral skills training (Miltenberger,

2011). Entry to the building can be permitted for students only, with arrival and dismissal occurring one student at a time. Students can be prohibited from bringing items from home. Students can be reassured through teacher articulation of these measures, as well as enforcement. It is possible to set up a live video feed to the school administrator for mental health support of students during the day. This could be established in a common area and limited to one student at a time.

Parent-reported miscellaneous difficulties of distance learning tied for second place in parent concerns. These included 'finding it difficult to teach educational content without teacher training' and 'technological challenges'.
A solution to technological difficulties is almost always time and experience with the technology. It is noteworthy that by the end of the third phase of the study, only one parent reported trouble, which was related to the inability to print assignments from her phone. Clearly, students need computers if they are to succeed at distance learning.
A solution to difficulties teaching educational content can be overcome through direct instruction from teachers via the above mentioned secure live video platform.

CONCLUSION

In conclusion, the results of this study indicate that the primary concerns of parents regarding distance learning can be addressed. Although not all students were able to receive direct instruction during this study, it is evident that, when delivered, student performance can be maintained via a distance platform, new instruction can be successfully delivered via a secure video platform, children can enjoy social interactions with friends via a secure video platform, and a sense of school community and connectedness can be accomplished via virtual events followed by secure video gatherings. Behavioral challenges surrounding work avoidance can be addressed with an expanded parent training course and student pep-talks during Monday morning arrival meetings. In addition, students can be provided with their own computer, so that work can occur when motivation is high. Childcare can be met with a self-selected skeleton staff and continued distance learning. Safety and mental health of students can be accomplished through extensive precautions as directed by the CDC, through

ongoing reassurance and counselling of students, and a live video feed between the school administrator, a Board Certified Behavior Analyst, and the school to support students' onsite experience as needed throughout the day.

The positive aspects to distance learning, well documented by this study, have illuminated a silver-lining to a challenging time for children and parents of Chrysalis School. More shared time with our children and a better understanding of their educational needs, can only aid the parent-child relationship. Improved quality of work from students working from home, may well be an artifact of these improved parent-child relationships, or might have emerged as a result of working from home without distraction from other students. Indeed, direct instruction of students in a one-on-one 'virtual' space may well emerge as a preferred method for delivery of direct instruction, over the bricks and mortar classroom. Less time spent on school work may also emerge as a positive outcome of distance learning. As reported, students have more time for other interests, however they also have more time for sleep, and less time spent waiting for instruction, waiting for other students to finish, waiting for an open restroom, and lining up.

In closing, the teachers and administration of Chrysalis School miss our students and look forward to a time when we can safely reconvene in person. Until then, Chrysalis School will re-open in the Fall of 2020, with approximately sixty-five to seventy-five percent of students attending virtually and twenty-five to thirty-five percent attending onsite for childcare, while also continuing with distance learning.

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