

D.R.I.V.E.N. School System: A Reformed Education Model

by

Shelby Click

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## Abstract

We believe there is a lack of an individualized and effective learning experience in the majority of education systems in the status quo. This leads to a disdain for everyday school life, indecisiveness in selecting a field of study post-high school, and the absence of passion for attaining knowledge that extends throughout a lifetime. After conducting research regarding alternative teaching methods and school structures through this joint project, we have developed D.R.I.V.E.N. School System. In 5th grade, we will test students for emerging qualities that indicate they will excel in a certain area. Their education in our schooling system will begin in 6th grade and will tailor to their individual needs not only as a student and future worker but also as a lifetime scholar. These students will likely excel in life as they will have a more in depth fundamental knowledge of their predisposed capabilities in addition to the tenacity that stems from a self-driven and in-depth education. By incorporating the use of Montessori teaching methods, adhering to a discipline specific curriculum, and grouping students by ability, we plan to eradicate the aforementioned problems from the education system.

My part of the project will consist mainly of the logistics and practical side of this new education model. Specifically, I will be explaining how the school would functionally work in the real world. This will concern topics like testing and admissions along with the classroom and the overall school structure. By organizing the structure of a school and changing the way students interact with each other and their teachers I believe that we will see more positive effects in our education systems.

## Introduction

D.R.I.V.E.N. School System isn't just a name; it is a descriptive acronym that shows the core values in which the school revolves around. The D stands for discipline specific which refers to the groups students will be placed in during the admissions process. These three groups are STEM (science, technology, engineering, and mathematics), Humanities/Social Sciences, and Fine Arts. The R stands for refined curriculum, meaning that as the school is developed the material taught in the classroom would adhere to graduation requirements while also giving an in-depth focus into the area of study in which a student tests well. The I is for integrated teaching methods such as Montessori and Dewey. These methods and their involvement the classroom are explained in more detail in my partner's paper. V stands for vocation preparedness, as our school will help students be more emotionally and mentally ready for the workforce upon graduation than the average student. The E stands for expanded opportunity. Our school system offers this to students through our partnership with the community and businesses. With these partnerships students will gain contacts and relationships transferrable into their post-high school world. Finally, the N stands for network driven. This phrase shows that we want our students to have the networking capability not only with those in the community but with each other to provide a platform for success.

In this paper I will provide a literature review to explain the research behind the system. Then I will specify the current education problem in the status quo. Following this I will reiterate some of the research included in the literature review to provide credibility and relevancy to the discussion at hand. With this research as a base I will move into the application section of the paper which will go through the overall picture of the school and address each section

specifically. Finally, I will provide an analysis of how our school would fix the current problem and offer a conclusion to propose further points of research on the topic.

### **Literature Review**

For my project I needed to look into several different and seemingly unrelated types of research. The areas of study I will cover in this literature review are child brain development based on Piaget's four stages of cognitive development, different types of tests and their application/creation, ability grouping in secondary schools, alternative school structure, and finally how to logistically create a school in the status quo specifically relating to the laws in Texas.

To start off, we will begin looking at the topic of child brain development based on Piaget's four stages of cognitive development.<sup>1</sup> The first stage is the sensorimotor phase, which starts at birth and extends to around the age of two. The sensorimotor phase is also divided into six sub stages, but articulating those are not essential to the knowledge needed for my project. In this stage children are exposed to the world around them and mainly respond to strict internal and external stimuli. They are very clearly motivated by sounds, actions of others and their environment as they look to explore and learn about where they are. The involvement of language is specifically important in this stage and is critically foundational to the success of the following developmental stages.

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<sup>1</sup> Halpenny, Ann Marie, and Pettersen, Jan. *Introducing Piaget: A Guide for Practitioners and Students in Early Years Education*. (Florence, KY, USA: Taylor and Francis, 2013.)

The second stage is the preoperational stage, which starts at the age of two and goes until the child is the age of seven. This stage is split up into two sub stages, the latter being the most important to our discussion.<sup>2</sup> The second sub stage, from ages 4 to 7, is the intuitive thought stage. This is where children start to examine the “how’s and why’s” of life. This makes sense if you have ever been around a five-year-old, or any toddler for that matter, as the vast majority of children this age are extremely persistent in asking questions about their surroundings. This stage gives a knowledgeable set up for the next stage.

The concrete operations stage goes from the age of seven to eleven. At this point the child will begin to have the ability to start imagining consequences of actions and have forethought.<sup>3</sup> This is deemed “concrete” because the children in this stage are mainly reliant on their physical surroundings to see consequences. The child would most likely have to experience some form of the base action in the real world in order to draw a logical chain of reactions from it. In this stage mental math has the ability to be developed significantly more. The students experience counting on their hands and with physical examples in the previous stage. Once they reach this level of development the ability for the children to use experiences as a background combined with the newfound ability to imagine possibilities allows them to do simple math calculations in their heads. While this stage is bound to the physical world, the next and final stage is not.

The formal operations stage begins *on average* at the age of 11 and can be mastered, by the analysis of Jean Piaget, by the age of fifteen.<sup>4</sup> At this point the child can now develop the

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<sup>2</sup> Halpenny, *Introducing Piaget*.

<sup>3</sup> Halpenny, *Introducing Piaget*.

<sup>4</sup> Halpenny, *Introducing Piaget*.

usage of hypothetical-deductive reasoning. This is the ability to create a hypothesis about a situation and deductively reason through its possibilities and alternative outcomes. The difference in between the formal operation stage and the concrete operation stage is that the concrete stage relies on the physical world for basis while the formal operation stage does not. The student can now think through alternatives to a problem or situation without physically being present in the situation or having experienced it before.

These last two stages are critical to the foundation of my project, as eleven is the age of which the students will be tested in order to determine their natural inclinations towards the disciplines. As stated in the “group” section of the abstract the students will be tested in fifth grade to determine which focused course of study they will be enrolled in, if any. Understanding where the child is at in their development process determines how well they will do on the test. If a child has not entered the formal operations stage, they will not be able to adequately answer questions that propose alternate solutions to a specific set of circumstances. In contrast, if a child is developing faster and has already been in the formal operations phase for a while they will be able to answer those types of experiential questions without extreme difficulty. So in theory one conclusion can be made from the study of the cognitive development stages: children who are developing faster than depicted in Piaget’s system have a better chance at doing well on the advanced experiential questions on the exam.

The next section of discussion has to do with the matter of different types of tests, their development, and accuracy in the system I am trying to achieve. Through research I have discovered that in order to change what we see we need to learn how to evaluate our circumstances based on the information available to us. Evaluations need to be structured in a

non-biased fashion that clearly depict the goals and/or standards being tested.<sup>5</sup> The test is perhaps one of the most important parts of the school system as a whole: if the test is not accurate then we will miss-diagnose the student and they will not receive a richer learning experience nor will we achieve the results we want. Also in this evaluation we must include a student history in order to know the basis and background of which our applicant comes from. This would include information about the school(s) the student had previously attended prior to seeking enrollment into the program.

In addition to a carefully fashioned structure, the exam must also possess rigorous content. This content will reveal itself in the form of two types of questions: created response (CR) and selective response (SR). Created response would be a question in which the student must generate his or her own answer without a word bank or choices to select. In contrast, selective response is when the student has multiple answers to choose from. The combination of these two questions will be used on the exam, focusing more with SR questions for the basic understanding content then switching to CR questions when moving to higher level content. These are the basic types of questions, but exam questions are also categorized by their goal.

There are four main types of questions based on what the administrators are testing/trying to achieve.<sup>6</sup> The first is a summative question which focuses on the outcome. The next type, the interim question, focuses on evaluation where the student is in their learning process and tries to determine whether they are on track to performing well on future assessments. Formative

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<sup>5</sup> Calder, Judith, *Programme Evaluation and Quality: A Comprehensive Guide to Setting up an Evaluation System*. (Florence, KY, USA: Routledge, 2013.)

<sup>6</sup> Faxon-Mills, Susannah, Hamilton, Laura S., and Rudnick, Mollie. *New Assessments, Better Instruction? : Designing Assessment Systems to Promote Instructional Improvement*. (Santa Monica, CA, USA: RAND Corporation, 2013.)

questions focus on developing the skills of the student. Then finally performance tasks are made to test whether a student can apply knowledge to a situation as appropriately. From summative, interim, formative and performance level questions the test will be organized from easier to more difficult content in that order; with each level becoming increasingly harder than that before it.

These were all the types of questions that formulate an exam. However, there are also classifications for types of exams themselves. I will not waste my time nor yours going into detail about all of these types of testing. However I will specify detail about one type of testing I believe would be particularly applicable to my project; and that is the type of Computer Multistage Testing (CMT).<sup>7</sup> This type of testing is structured to draw questions from one pool of normal level questions including content that is primary to the students of that age. As the student answers more questions right, the test will recognize that it needs to amplify the difficulty level by switching question pools to the next level of questions and so forth. The longer the student tests, the more individualized the exams becomes. And arguably, the longer the test goes the better the student is in that particular discipline. CMT is better and more efficient than linear testing because it is allowed to adapt the difficulty of the questions to the user.<sup>8</sup>

Next, I will discuss the research I have accumulated for this project in respect to ability grouping in secondary schools. Ability grouping in the *British Journal of Educational Psychology* is defined as organizing students by talent and comprehension level rather than by age. In a study done by Judith Ireson, Susan Hallam and Ian Plewis it was tested on how different levels of

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<sup>7</sup> Yan, Duanli, von Davier, Alina A., and Lewis, Charles, eds. *Computerized Multistage Testing: Theory and Applications*. (Boca Raton, FL, USA: CRC Press, 2014.)

<sup>8</sup> Yan, *Computerized Multistage Testing*.



ability grouping effected how the students felt about the subject and school overall as well as the effect it had on their self-esteem. Three levels of grouping were created: low (mixed ability), moderate (partially set) and high (fully set). The mixed ability schools had students grouped by age and not by ability in all of their classes. The partially set, or moderate level, of ability grouping had 2 out of the 4 main subjects grouped by ability and the other 2 mixed. The highly grouped level had all four subjects grouped strictly by ability and none by age. The study also stratified the results based on gender and social disadvantage.<sup>9</sup>

The results of the study were numerous and very significant. First, it was determined that self-esteem and general school concept were higher in the moderately grouped students as opposed to the lower and higher levels.<sup>10</sup> Next, the study showed that social disadvantage was unrelated to the self-concept tests in the three subjects measured (math, science and English).<sup>11</sup> Other interesting results were that in English classrooms above average students experienced a decrease in their self-perceptions when placed in a lower attaining atmosphere while average or below average students experienced an increase in self-perception as they were placed with the higher attaining students.<sup>12</sup> In every other subject the opposite was true. It was also found the subject of English effected the students' general concept of school more than both math and science. Mathematical ability was seen as a more distinctive quality that cannot as easily be taught but the success of the student in this subject has a higher correlation to natural ability than

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<sup>9</sup> Ireson, J., Hallam, S., & Plewis, I. "Ability grouping in secondary schools: Effects on pupils' self-concepts." (British Journal of Educational Psychology, 71, 315-326; 2001).

<sup>10</sup> Ireson, 323.

<sup>11</sup> Ireson, 321

<sup>12</sup> Ireson, 322

English and science.<sup>13</sup> Self-esteem was found to be highly related to how students felt about school on a general level. The final revealing truth of the study was that on average, boys have a higher self-concept than girls even when their academic performance is exactly the same.<sup>14</sup>

Along with the school being differed in ability grouping, the overall structure of the school will be different from that of a normal school. Members of the VIVA Idea Exchange took hundreds of hours to talk about how to optimize the time spent in school. These members are teachers and administrators from seven states across the U.S. Partnered with the National Education Association, these teachers compiled a collaborative report that included several recommendations about school structure as a whole.<sup>15</sup>

In this report one of the recommendations is to lengthen the school day and the school year. Under this recommendation you will find two different calendar structures; a traditional structure and a balanced structure. The traditional structure consists of a three-month summer break with two main semesters lasting about 90 days each. These huge blocks of instruction time often “burn-out” the students and the teachers as well. Then, when students come back after a three-month break from education it is likely they have forgotten a large portion of what they learned the previous year. This causes teachers to spend time at the beginning of the year reviewing over material that students should already know. The calendar model to correct this issue is the balanced model. This school has four quarters of 45 days of instruction each with 15 day breaks in between each quarter. Then for summer break the amount of time is lengthened to

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<sup>13</sup> Ireson, 323.

<sup>14</sup> Ireson, 324.

<sup>15</sup> Roekel, D. V. “Making the Most of Time in School” [Editorial]. (*Teacher Voices for Education Reform*, 1-26 2014).

30 days.<sup>16</sup> This schedule gives breaks more often to deter burning out from a heavy academic course load. And, with the summer break only being 30 week days (around 6 full weeks) the students will come back with more retained knowledge from the year before.

In an article published by the District Administration Leadership Institute author Monica Rhor gathered opinions from administrators across the nation to get their thoughts on how they would change school structure. Sue Goodall, an administrator from Iowa, explains that the calendar structure direly needs a shift in schools.<sup>17</sup> She, along with many others, have reinforced the idea to shorten the summer break and put those rest days in other parts of the year to make the time students spend in school as valuable as possible.

The final section of my literature review consists of the logistical method in which to practically create a school under the laws that govern Texas education systems. There are a series of steps in doing this, including extensive contact with government agencies and legal services.<sup>18</sup> First and foremost in this process you must legally form the organization. It can be a for-profit or a non-profit corporation. However, for our purposes in this circumstance we will only discuss the avenue to create a non-profit. To legally create the organization, you must have a lawyer establish bylaws and your non-profit status as a corporation. Then after this you would need to contact the IRS to get an EIN (employer identification number).

This tax exempt status would need to be obtained, which is one of the most time consuming parts of the process. It costs \$750 just to submit the form and then a wait time of up

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<sup>16</sup> Roekel, *Making the Most of Time in School*, 10.

<sup>17</sup> Rhor, M. (2013, May 1). *Reimagining School*. Reimagining School, 49-51.

<sup>18</sup> Kolko, Jon. "How to Start a School in 10 "Easy" Steps." *Austin Center for Design* (2012).

to six months before receiving a confirmation of tax-exempt status under United States law. This step completes the engagement with the government. Next you would have to develop a curriculum, classes and organize the structure of the school. You would also need to create a website, advertise your school, make enrollment applications, hire teachers and find a building for the school to physically reside. And, if you are planning on building a new school, you are looking at waiting on construction and taking out a huge loan to pay for it. Next, particularly for this specific school system, you need to have interested students tested and then assemble a team to grade and evaluate the students based on their performance. After all of this is complete, you are ready for the first day of classes. The whole process could take from one to three or four years before any “education” actually starts happening for the students you want to reach.

All of these sections incorporate into my project in the following descriptions. Brain development at the turning point of switching stages of cognitive development is critical to understanding which students are naturally predisposed to doing better on the exam. The type of exam, the questions on the exam and the conscience construction of the exam is extremely important in the success and efficiency of the school system as a whole. Ability grouping will determine how students are organized and ultimately the quality of education they will receive. The alternative school structure will maximize the use of time allowed in the classroom and produce the desired effects in students while also decreasing the length of learning blocks.

### **Problem Specification**

As stated in the abstract of the paper, we believe that there are three main problems in the education system today. These are: disdain for everyday school life, indecisiveness in selecting a field of study post-high school, and the absence of passion for attaining knowledge that extends throughout a lifetime.

Disdain is defined by the Merriam Webster dictionary as “a feeling of contempt for someone or something regarded as unworthy or inferior”.<sup>19</sup> The key part of this definition is regarding something as inferior and in this case the “something” is education and/or school in general. Many students not only dislike going to school every day but they feel like it isn’t necessary or important. This problem could stem from many different things. The fact that education is considered a requirement in the United States and not a privilege could contribute to this. Also, school has become a system regulated by the federal government in which students must focus on passing objectives rather than actually gaining important experience and knowledge for life. Schools today have become a one-fits-all program that mainstreams the wants and needs of students.

There are different levels and dimensions of this problem as well. Of course, not all students dislike school with the depth the term “disdain” describes. It is a general feeling that most students encounter on a somewhat frequent basis during their school years. Indicators of the disdain for everyday school life include the want to miss class, the lack of importance placed on things associated with school (assignments, books, teachers), and complaining about school. Measuring this is a difficult process, however you can do this in several ways. Because it is based entirely off of how the students feel, a personal survey or questions would need to be completed in order to see the effect on a student’s attitude towards school.

The next problem is the indecisiveness in selecting a field of study post-high school. Currently, 50%-70% of college students change their major at least once and many change it up to three times.<sup>20</sup> When students graduate from a traditional high school it is likely they have had

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<sup>19</sup> *Merriam-Webster's Collegiate Dictionary*. 11th ed. Springfield, MA: Merriam-Webster, 2003.

<sup>20</sup> University of La Verne. "Major Exploration: Myths about Majors." University of La Verne Career Services.

minimal to no vocational training or preparation through the school. Students can seek these services elsewhere, often at their parents' expense through an aptitude test of sorts. Students are often left to fend for themselves in choosing a career and/or field of study upon graduation from high school. Indicators of this problem would include major changes, stress and anxiety about career choices, or dropping out of college altogether.

The final problem discussed in this paper is the lack of a passion for lifetime learning. A passion for lifetime learning means that a person enjoys learning new things and continues to be educated as they grow older. This education is not necessarily from an institute but can also be from other people in the form of a neighborhood class, lessons, and reading books/watching videos. Because so many students harbor a dislike toward school in general at a young age they associate that dislike with the concept of learning. In this sense, we can see that if they dislike learning altogether they will not want to continue to learn new things throughout their lifetime.

This problem is significant in the essence that without a people with a desire to be educated the society would plateau. As an economy that is based on continual education, this would be disastrous. To compete as a country, we as a whole should be striving to find new and better ways to do things. Without the basic want to learn new things and improve old processes our economy would suffer and in turn our citizens would suffer.

These three problems are extremely prevalent in students today, but they don't have to be. This shows us why modifying the education system is so important; because almost everything else is affected by it. When we start rehabilitation beginning with the youngest in the country we start a process to create generations and generations of new members of society that are better than the last.

### Research Related to the Discussion

The role of cognitive development is small in this project but foundationally important. The conclusion that was found in the literature review of this paper proves true: children who are developing faster than depicted in Piaget's system will have a higher chance of performing well on the admissions exam. This last stage of development gives the student the ability to think through a situation and use deductive reasoning to create alternate outcomes of this situation. When I discuss the details of the admissions process later on in the next section of the paper you will see how critical this skill is to a student's success on the exam. This, however, is not to say that only students that are developing quicker will gain admission into the school. We have created an admissions process that allows for children who are not excelling naturally in their brain development to still have a chance at gaining acceptance.

The actual testing process will be very particular. Each group in the school (STEM, Humanities/Social Sciences, and Fine Arts) will have a completely separate exam that will test different things related to each discipline. The tests will be Computer Multistage Tests which means they will have pools of questions with each pool having a higher difficulty level than the last.<sup>21</sup> Students who reach the highest level of questioning will likely be offered to "skip a grade/level" due to their advancement of knowledge in the area of study. The test is designed just to look at what the student has naturally. It is not designed to be studied or prepared for. The goal of the school is to take students who are naturally inclined towards certain disciplines and give them the opportunities to succeed in that field while obtaining critical life skills and knowledge along the way.

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<sup>21</sup> Yan, *Computerized Multistage Testing*.

## **Application and Logistics**

### **Discipline Grouping**

In this section of the paper I will begin to discuss the actual school system, how it is set up, and how we envision it to look. The first topic to begin this discussion is the discipline grouping structure of the school. There are three groups in which students can apply and gain admission for in D.R.I.V.E.N.

The first of these is the STEM group. This group works specifically well for students who are very logically and analytically minded. It is expected that these students will have a high-level ability to think critically, solve problems, and perform well under a high stress environment. As far as career choices go, this group would include sciences such as biology, chemistry, and physics. For technology the school would offer computer programming and technology development options. For engineering, fields like petroleum engineering and electrical engineering would be included. And finally mathematics careers like accounting, mathematics or analysis would be included in this discipline.

The next discipline group in the school is the Humanities/Social Sciences. Students in this group are expected to have high-level social skills and a general interest in the way societies and/or humans operate. Careers that would fall into this group include public servants, economists, psychologists, lawyers, teachers, etc. Also students who are interested in fields such as English, languages and history would fall into this category.

The third and final discipline group is the Fine Arts. This group is for students who are creative in nature and who have talent in expressing themselves through music, media or physical art. Careers in this area would include specialties in music, theater, choir, publications,



design, painting, sculpting, photography and more. Because these activities are usually taught in schools as “electives” or “optional” courses rather than a field of study, this program will be especially different in structure than a normal educational environment.

### Admissions and the Application Process

The application process for the D.R.I.V.E.N. School System is designed to find the students who have natural talent and/or a heightened specific interest in any of the three discipline groups. Our process is not only made to find students who have “book smarts” but to also find students who can apply and succeed with that knowledge throughout a rigorous curriculum in school and a career later in life. To meet all of this criteria we have split the process into three distinct parts.<sup>22</sup>

The first part of the admissions process a student will come into contact with is a test that relates to his/her chosen discipline group. This test will count as 30% of the admissions evaluation. For the typical student, this test will be held near the end of his/her fifth grade year. For STEM, the test will be material based focusing on problem solving and critical thinking. For humanities/social sciences the test will gauge a student’s response to situations and behavior. Then for fine arts, the test will evaluate the student’s ability to recognize patterns and think abstractly.

The second part of the admissions process is the submission of a project or audition. This section will also be worth 30% of the total evaluation. The project can be over anything the student wishes to complete as long as it stays within their field of study. For STEM some examples include a science, a computer programming or graphing project. For humanities/social

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<sup>22</sup> Hinojosa, M. (n.d.). School for the Talented and Gifted [Application Information Packet]. (Dallas, Texas.)

sciences this could possibly include community service, research or writing projects. For fine arts a submission OR audition would suffice. For example, a submission of a sculpture, painting, or graphic presentation would be included in this field. If the student is talented in the areas of theater, choir or music he/she would be allowed a short audition in order to display his/her ability. A short monologue, musical piece or song would suffice for this requirement.

After the test has been completed and scored along with the project submitted or audition taken place, the student will go through a short interview with faculty and staff of the school. This final part is weighted the most, taking up the remaining 40% of the evaluation. Each interview will be with three faculty members including an administrator, head teacher, and counselor from the department in which the student is applying for. In the interview the staff will have the opportunity to ask the student questions in order to solidify test results. They will also discuss the project with the student. In this portion of the interview the student will have the chance to talk about their project and why they chose it along with the results or meaning concluded from it. Also in the interview the student will have the chance to ask questions about his/her prospective program.

A maximum of 100 points can be awarded to an applicant but he/she must have at least 80 points to be admitted. The process would begin in late April/early May and extend through the end of May. Decisions concerning the acceptance of the applicant would be delivered no later than June 30<sup>th</sup>.

For an applicant that is in any other grade higher than fifth and seeks to be admitted into the program he/she would have to participate in a similar process. They would take the initial test as well as a modified test of material that is expected for a student to know going into the level they are applying for. For example, say Sarah, a current 7<sup>th</sup> grader, is applying to the STEM

discipline for admission to the 8<sup>th</sup> level of D.R.I.V.E.N. Sarah would take the initial test which focuses more on natural talent identification, then submit a project and complete an interview. After this, Sarah would take a test that would evaluate her level of exceeded talent in STEM relating to the 7<sup>th</sup> level of the school. If she passes this test, she will be admitted into the program if room is available at that time.

It would be harder for Sarah to get into the program during 7<sup>th</sup> grade compared to if she had applied in 5<sup>th</sup> grade. This is because of several reasons; the first of which being that Sarah would have to pass two tests, not just one. Secondly, Sarah would have to display a heightened development level in order to secure that she would transition well into the program without having to take lower level classes to “catch-up”. Third, it would be harder for Sarah to get in because there is no guarantee that there are spots available in the program. At the start of the school, only twenty students per level per discipline will be admitted. This would give us sixty students per level and 420 students in the entire school.

#### Grade Structure: The Level System

In the D.R.I.V.E.N. School System students will fall into levels rather than the traditional grade system. Each level offers certain classes in varying difficulty and requires students to complete certain objectives set forth by both the state and the school. Once the student meets these objectives they are allowed to move up in level at the beginning of the next grading period. This allows for students to accelerate their education by their own pace, should that be faster than the one-grade-per-year system. It also allows for the school to have a way to track the student’s progress in their field of study while also complying with state regulations for grade-level work and skills.

This level system, however, does have certain restrictions. We have put the “2 Year Rule” in place to restrict the levels in which students can enter below or above their normal year level. The 2 Year Rule states that a student cannot exceed two levels above their normal level in core curriculum classes or two years below their normal level in elective courses. For example, if a student named Kelly goes through the admissions process in fifth grade and excels to the point that she exceeds the expectations for level six, she would be allowed only into level 7 or 8. Because she would normally enter the school in level 6, she is not allowed to take core courses (discipline specific and the four areas of the core curriculum) that are level 9 or higher. This restricts her from entering level 9. In a similar way, all students can take elective courses outside of his/her field of study. A student in level 10 cannot enroll in an elective course that is categorized as level 7 because it is more than two years below them.

We have put this rule into place for two main reasons. First, there is a level of social cohesion that is lost when the age between students is more than two years. Because we want students to get the best experience possible at the school we want to maximize the social bonds within a group. By having these social bonds students will have a better outlook on school and learning while also developing critical skills for later in life. The other reason for the 2 Year Rule is so the school system can remain in compliance with the state’s graduation requirements.<sup>23</sup> It is illegal for a student to graduate high school if he/she is below the age of 16, which normally translates as a student in the 10<sup>th</sup> grade. The 2 Year Rule restricts a student younger than sixteen to graduate the twelfth level.

### Calendar Structure

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<sup>23</sup> State Graduation Requirements. (2014).

The calendar structure of the school goes hand in hand with the level system. Our school further differs from the traditional model in the way the year and instruction time is organized. The school year will be broken up into four quarters each with an average of 45 days of instruction.<sup>24</sup> Starting in late July, there will be fifteen day breaks in between each quarter. Then when the year concludes in early June there will be a thirty-day break similar to a summer break. This structure allows for the same 180 days of instruction but gives more frequent breaks in shorter lengths spread throughout the year.

This structure also prepares students for an excelled college curriculum. The normal quarter has 8 weeks of instruction with one week of review and testing followed by a three-week break. In college students have the option to take eight week courses to accelerate their school load. It is imagined that some, by no means all, of the courses offered at D.R.I.V.E.N. would be only one quarter long and would mimic this type of excelled curriculum. Should the student opt into these courses they will have the chance to finish their level faster or just fit more instruction into a smaller amount of time, just as these options would be given to them in college.

### Remedial Instruction and Discipline

Even in a school with students who are the “cream of the crop” there will still be disciplinary action required. Just as students will experience in the workplace, there are a set of rules and a structure that cannot be violated. When this structure is violated, consequences occur. In order to prepare our students for the workforce, we are implementing this model of disciplinary action. Our system will be based on referrals, like in most schools. A referral will be given to any student(s) who is resisting teacher instruction or violating campus rules. To review

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<sup>24</sup> Roekel, 10.

cases of misdemeanor there will be a governing body named The Board. The Board will comprise of teachers and administrators from all departments of the school along with the head counselor.

When two referrals have been obtained by the student within a quarter his/her case will go to The Board. The Board will choose from a parent meeting, a counselling session or both in order to attempt to correct the student's behavior. When three referrals have been obtained by the student within two consecutive quarters "weekly measures" will be put into place. This means the student will have a weekly meeting with an appropriate staff member determined by The Board. The "weekly measures" are designed to give the student an outlet for his/her frustration and problems with a person whom they can trust and build a lasting relationship with. This also gives us as administrators the perspective of the student and try to identify the root of the problem. The designated staff member will have all authority to continue or terminate the weekly measures based on student progress.

When five referrals have been obtained by the student within four consecutive quarters their case will be brought before The Board to evaluate their continued education at the school. The Board may then decide to a) allow the student to continue education if special provisions are made or to b) expel the student from the school. This models what a student is likely to see in the workplace and will prepare them to cope and become comfortable with that system before they get into situations of that nature during their career, if ever.

Another disciplinary issue that will be dealt with in a serious manner is that of remedial instruction. At D.R.I.V.E.N. School System, a student is not allowed to take core level classes that are designated below his/her level. This means, in order for a student to make it to the next level they must pass all of their required classes or they will not be allowed to continue with the

school. In order for the school to be able to hold these standards for our students it is also required that we create a structure that gives ample opportunity for students to correct their grades and receive extra learning time.

To provide students with that opportunity it will be required of teachers at the school to hold tutorial hours for his/her students. Hours should be offered at a variety of times, both before and after school, throughout the week. The teachers are required to work with a student's schedule should the normal tutorial times conflict with what the students have strict dedication to.

Should a student's grade fall below a 75 in any subject, required or elective, the student must attend mandatory tutorials. If proof of these tutorial sessions are not shown, the student will receive a referral. If a student fails a required/core class, they will no longer be allowed to continue with the program.

These standards may seem harsh; we believe that through this model students will be most effectively taught how the world after high school works. In the workplace, when you commit to something you are expected to do it correctly and with excellence. When a student begins their time at the school system they are making that same commitment to excellence. The student gets the opportunity to choose his/her field of study and elective courses. By allowing our students the freedom of choice we are also holding them accountable to their actions when they fall below the desired performance line. We then put fail-safe measures in place to help those students in order for them to fulfill that commitment. When a student no longer wants to help themselves they are no longer fulfilling their commitment to the school and therefore will be released by approval of The Board.

## Associations and Extra-Curricular Activities

For the type of school, we envision that translating this structure and idea to a magnet school would create the best scenario. Magnet schools are usually partnered with a school district in order to be financially responsible but also give students in that area a higher opportunity at a more directed curriculum relating to their chosen field of study. We would imagine our school being located in a metropolitan city such as Austin, Houston, Dallas or San Antonio. It would be a part of a larger school district or system. By being categorized as a magnet school this also gives financial stability and the opportunity for the students to participate in extra-curricular activities that would not be normally offered at a start-up school.

The University Interscholastic League (UIL for short) governs nearly all of the competitive extra-curricular activities in the state of Texas. This body gives rules and interpretations for competitive events that are optional for students to participate in outside of their regular school hours during the day. UIL offers a variety of events and competitions in differing subjects for students to explore and strengthen their skills in starting in 7<sup>th</sup> grade. Examples of these events include competitions for theater, band, choir, computer programming, publications and newspaper, social studies, science, literature criticality and more.

In relation to magnet schools, UIL deems it appropriate for “students who are attending a magnet school located on a campus (within their ISD) that does not offer any activities within a particular division of UIL activities (Academics (including One Act Play), Music or Athletics) to participate at their home attendance zone campus, in that division, under the jurisdiction of that principal for UIL purposes...”<sup>25</sup> This means that as a magnet school we would be able to use the

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<sup>25</sup> Acton, Jeanne. “Official Interpretation for Magnet School Participants.” The Leaguer (2010)



district's facilities and established teams to plug into and offer our students as many opportunities as possible to get involved.

### **Analysis**

Now that the school structure of D.R.I.V.E.N. School System has been explained, let's take a look at how it aids in solving the three problems identified at the beginning of the project.

#### **Disdain for Everyday School Life**

Disdain for everyday school life can be traced back to a lack of enjoyment during the school day and the outlook that school isn't important nor a necessity. So how does a school system change how students feel about school itself? This is where the ability grouping comes into play for us. First we need to remember that the study referenced in the literature review used three levels of ability grouping: mixed (no classes grouped by ability), partial (half classes ability grouped, the other half not), and high (all classes grouped by ability). In this study it was shown that students who participated in the partially grouped class structure had a higher academic self-concept and a higher self-concept in general.<sup>26</sup> By academic self-concept it means that the students felt better about their performance academically. The general self-concept relates directly to the students' self-esteem not just in school but overall how the students feels about themselves.

In the sections that were highly grouped, students actually experienced a decrease in their academic self-concept. Even though the students were aware that they were in the top tier of the academic hierarchy they felt like they were not performing as well as they should have been. In other words, they were more disappointed with their academic scores than those students who

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<sup>26</sup> Ireson, 325.

were in both the mixed ability and partially grouped sections. This could be because the students in the highly grouped section were with a more competitive group of students and by comparison they could no longer stand above the rest of their peers. Students in this group began to compare themselves socially to each other and ended up with a lower general self-concept because they felt like they were not succeeding in something that was extremely important to them.

In subjects such as English, this classroom setting was highly affective of the way students felt about school and themselves. In the subjects of math and science the study showed that there was less of a correlation to the students' level of ability grouping and their self-concepts, both academic and general. By looking at this we can conclude that the best approach for a school is not for that school to create a completely competitive environment for their students but to offer balance where the student is challenged academically and also has a place to shine.

Our school does exactly this. Through the use of the discipline specific groups and the levels we use ability grouping in all of the required core classes. Then, in the elective classes students are allowed to mix with other students that are not only from different discipline groups but are of varying ages and comprehension levels. This set up will create just the right level of moderation to maximize the results seen in the students who graduate from our program.

The social connections gained through the students' time in the program will also help to create a memorable and enjoyable experience in school rather than a bad one. These social connections are a result of the ability grouping (having students at the same level of comprehension and development learning together over an extended period of time). Social connections are also strengthening by the use of the 2 Year Rule to limit the lack of social cohesion in the classroom.

### Lack of Post-High School Preparation

D.R.I.V.E.N. School System helps with the lack of preparation for life after graduation in several ways. First the students will be receiving instruction and a refined curriculum that relates directly to a general field of study. They will also be exposed to this over a long period of time while also having the opportunities in later levels to connect with local businesses and career centers to shadow and intern in the real world. This real-world experience will help the students narrow down their search for the right career. By starting them in this search early and giving them the education, tools, and opportunities to excel they will be more prepared for life after high school than the average high school graduate.

The alternate school structure also mimics the college environment as well as the workplace. For the college preparation, students are exposed to rigorous course material and heightened internal responsibility to achieve the goals set before them. Also, the disciplinary system but in place will help the students transition into a workforce with ease.

### Absence of a Passion for Lifetime Learning

Because students feel a disdain towards school, they are less likely to want to learn new things as they go through their life. We solve for this problem by our use of ability grouping to increase general school concept.

Ability grouping is also helpful to the economy and workplace because it creates a cycle that results in a more productive knowledge economy. First, as we have proven here, moderate (partial) level ability grouping creates a higher self-concept in students. This higher general self-concept leads to the student feeling better about school itself. When this happens, the student is likely to look back on their years in school as a good memory rather than a bad one. This general

“good” feeling about the classroom will help instill a more positive outlook on learning new things even after they graduate high school. This passion for learning things over the course of a lifetime further promotes an economy that is dependent on constant innovation and new developments.

### **Conclusion and Further Points of Research**

In conclusion, there are three main problems in the majority of education systems today. The D.R.I.V.E.N. School System solves these problems by grouping students into discipline specific groups and stratifying those groups into levels based on students’ comprehension and development levels. Through the use of ability grouping, an alternative school structure that includes a differing calendar, level system, and disciplinary procedure along with creating an environment for learning to thrive we will solve the problems represented in America today.

To potentially implement this school system a school district would have to accept it as a viable plan for the school district. A full curriculum for each discipline and each level would need to be constructed, teachers would need to be hired and a building would need to be found to house the day to day operations of the school. After all of the details are worked out the school plan would have to be approved by the state so the district could access funding to keep the school in session. After the approval was gained the first admissions process would be conducted for students in the surrounding area. The first round of admissions would start with just levels 6-8 so the school could get on its feet. Then the next year the school would open for all levels, sixth through twelfth. Getting a school running is no small feat but with an extreme passion and the right connections we believe that it is a feasible project.

For points of further research, we would like to suggest investigating where the roots of the three problems indicated in this paper come from so we can better understand how to overcome them. Also, a more detailed look into the testing system would be required to make the school system work as intended. As the ultimate form of research to conclude this project we would have to test this structure on students over an extended period of time to see if and by what degree each of the three problems improved. Experiments and measurements would have to be taken in order to track the students' self-concepts both academically and generally. Next, the student would have to be observed and surveyed has he/she transitioned into college and/or the workforce in comparison to students who did not go through the D.R.I.V.E.N. program to measure the difference in preparation. Finally, the students would have to be observed and surveyed throughout the course of a life time against people who did not graduate from the program in order to measure the passion for lifetime learning. Out of all of the experiments this project opens up as potential grounds for research, measuring and defining the passion for lifetime learning would certainly be the most difficult to complete with accuracy.

With this project we hope to shift the conversation in the education sector away from standardized testing to legitimate performance measurement and critical skills for success upon graduation. It is through experience that we learn the most, not through material based comprehensive exams. Substantial change in education will not come from making content more rigorous, but by individualizing education to provide a sustainable platform in which students can use to project themselves into a successful future. Rather than spoon-feeding our students test strategies, with this new mentality we can put students in the driver's seat of their own education.

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