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By Weena Mckenzie & John R. Slate

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Keywords: developmental education, graduation rates, persistence rates, texas community colleges.

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DIFFERENCESINGRADUATIONANDPERSISTENCERATESATTEXASCOMMUNITYCOLLEGESASAFUNCTIONOFDEVELOPMENTALEDUCATIONENROLLMENT

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Differences in Graduation and Persistence Rates at Texas Community Colleges as a Function of Developmental Education Enrollment

Weena Mckenzie [α] & John R. Slate[σ]

Abstract- Examined in this study were differences in graduation and persistence rates at Texas community colleges as a function of developmental education enrollment. Developmental Education Accountability Measures Data were downloaded from the Texas Higher Education Coordinating Board from Texas community colleges for the 2014 and 2015 academic years. Revealed by inferential statistical procedures were that students who required developmental education had statistically significantly lower graduation and persistence rates than students who did not require developmental education in both the 2014 and 2015 academic years. Implications of the findings are discussed and suggestions for future research are given.

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I. Introduction

Providing academic support for underprepared students has been a part of higher education in the United States since at least the 1800s (Boylan & Saxon, 1998; Casazza, 1999). Today, the need for developmental education continues. According to the National Center for Education Statistics (2003), 42% of entering community college students nationwide enroll in at least one developmental education course.

According to the Texas Higher Education Coordinating Board (2012), 41% of Texas students enrolled in public higher education at any level require some form of developmental education. In 2010, the Texas Higher Education Coordinating Board began an initiative to transform developmental education. The initiative, Developmental Education Demonstration Projects, was "designed to fundamentally reform a system that is failing students nationwide" (Texas Higher Education Coordinating Board, 2012, p. 2). The stated goal of the Demonstration Projects was "to boost completion rates among at-risk students by improving remediation programs at colleges and universities" (Texas Higher Education Coordinating Board, 2012, p. 2). In 2011, Complete College America funded a separate initiative, the Fundamentals of Conceptual Understanding & Success (FOCUS) Program. Fifteen Texas community colleges participated in professional development during fall 2011 for spring 2012 FOCUS course implementation (Texas Higher Education Coordinating Board, 2012, p. 3). Evaluation information is not currently available for the Texas FOCUS Program. However, the Demonstration Projects have been evaluated.

Booth et al. (2014) used both extant data and qualitative interviews to evaluate Texas state-funded Developmental Education Demonstration Projects at five state community college systems and four public universities. Booth et al. (2014) noted that state-level coordination and funding were important components that allowed the study sites to improve their developmental education programs. The Texas Higher Education Coordinating Board intended "to bring the identified scalable components to the entire state as a model and offer a state model nationally" (Booth et al., 2014, p. 2). Booth et al. (2014) stated that 62% of community college students and 73% of university students passed their developmental education courses. However, passing developmental education courses does not equate to overall college success. Booth et al. (2014) confirmed, "Ultimately success of college students is defined as graduating from either a two-year or a four-year program" (p. 3).

Efforts in Texas to transform developmental education directly relate to the mission of the state's community colleges. Since their emergence, community colleges have provided open access to higher education. According to the American Association of Community Colleges (2016), "community colleges have been inclusive institutions that welcome all who desire to learn" ("About Community Colleges," para. 1). In the fall of 2010, almost 80,000 Texas students enrolling in college were not college ready by Texas standards (Texas Higher Education Coordinating Board, 2012). Of those students, 86% enrolled at community and technical colleges. In other words, "more than 8 in 10 students requiring developmental education attended community & technical college" (Texas Higher Education Coordinating Board, 2012, p. 1). It is, therefore, the mission of Texas community

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colleges to provide effective remediation for those students who arrive not academically prepared for college-level work.

II. STATEMENT OF THE PROBLEM

In Texas, for the 2011 academic year, only 49.5% of students enrolling in community and technical colleges directly from high school were considered college ready (Texas Higher Education Coordinating Board, 2012). As recently as the 2009 through the 2013 academic years, those students who required developmental education graduated at roughly half the rate of students who did not require developmental education (Priesmeyer& Slate, 2015). Furthermore, those students who required developmental education persisted at a rate approximately 10% lower than students who did not require developmental education (Priesmeyer& Slate, 2015).

III. SIGNIFICANCE OF THE STUDY

Many entering community college students are in need of successful remediation. If community college developmental education programs are not successful, those programs may be eliminated. As reported in the *Chronicle of Higher Education*, Florida voted in 2013 to make remedial classes and the related placement tests "optional for anyone who had entered a Florida public school as a ninth-grader in 2003 or later and earned a diploma" (Mangan, 2014, A11).

The Florida law was influenced by [Complete College America's] call for making college-level classes the default placement…. But even Stan Jones, president of Complete College America, worried that the Florida law had gone too far….'Our point has never been to put them in college classes and let them fail,' Mr. Jones said.... Thomas R. Bailey, director of the Community College Research Center at Columbia University's Teachers College, agreed. His research has been cited by states eager to cut back on remedial instruction. 'Remediation didn't work and needed a radical overhaul, but I'm not sure I would have made it voluntary.' (Mangan, 2014, A11)

The field of developmental education urgently needs to improve the graduation and persistence rates of students who enter college in need of developmental education. Policymakers are all too eager to eliminate programs that are seen as ineffective.

IV. PURPOSE OF THE STUDY

The purpose of this study was to determine the extent to which enrollment in developmental education was related to graduation and persistence rates of Texas community college students. Specifically analyzed in this study were the graduation and persistence rates in the 2014 academic year (the entering Fall 2011 cohort) and in the 2015 academic

year (the entering Fall 2012 cohort). An imperative exists to determine the effectiveness of the THECB's efforts to increase the success of students requiring developmental education.

V. RESEARCH QUESTIONS

In this study, the following research questions were addressed: (a) What is the effect of developmental education enrollment on graduation rates at Texas community college sin the 2014 academic year?; (b) What is the effect of developmental education enrollment on graduation rates at Texas community colleges in the 2015 academic year?; (c) What is the effect of developmental education enrollment on persistence rates at Texas community college sin the 2014 academic year?; and (d) What is the effect of developmental education enrollment on persistence rates at Texas community colleges in the 2015 academic year?

VI. METHOD

a) Research Design

The use of archival data in which the independent variable and the dependent variables had already occurred necessitated the use of a causal comparative design (Johnson & Christensen, 2014). Archival data were used to determine the degree to which differences were present in graduation and persistence rates as a function of developmental education status at Texas community colleges in the 2014 and 2015 academic years. Because only two groups were present (i.e., students who required developmental education and students who did not require developmental education), dependent samples *t*-tests were conducted to answer the research questions (Slate & Rojas-LeBouef, 2011).

b) Participants and Procedures

Archival data from the Texas Higher Education Coordinating Board (2016a) Interactive Accountability data system were used. Data were downloaded from the Texas Higher Education Coordinating Board Developmental Education Accountability Measures Data website for the 2014 and 2015 academic years. Data were obtained on all Texas community colleges for which data were available. Graduation rates and persistence rates of students who required developmental education and students who did not require developmental education were analyzed. Graduation was defined by the Texas Higher Education Coordinating Board (2016b) as, "For two-year institutions, it is the students who graduate with an associate degree or certificate within three years." Persistence was defined by the Texas Higher Education Coordinating Board (2016b) as, "The rate at which students persist in higher education, often as measured by the percentage of students who continue in higher education from one year to the succeeding year."

VII. RESULTS

Prior to conducting inferential statistics to determine whether statistically significant differences were present in graduation and persistence rates as a function of developmental education enrollment, checks were conducted to determine the extent to which the data were normally distributed. The majority of the standardized skewness coefficients (i.e., the skewness value divided by its standard error) and the standardized kurtosis coefficients (i.e., the kurtosis value divided by its standard error), were within the limits of normality, +/- 3 (Onwuegbuzie & Daniel, 2002). To be consistent, the decision was made to conduct parametric dependent samples t-tests to answer all four research questions. Dependent samples t-tests are an appropriate inferential statistical procedure to calculate when the variables (i.e., graduation rates and persistence rates) are related (Slate & Rojas-LeBouef, 2011). In this investigation, graduation and persistence rates were present for the same community colleges and were at the interval/ratio level of measurement.

For the first research question regarding graduation rates in the 2014 academic year as a function of developmental education enrollment, the parametric dependent samples t-test revealed a statistically significant difference, $t(77) = -19.27$, $p < .001$. This difference represented a large effect size (Cohen's d) of 1.71 (Cohen, 1988). In the 2014 academic year, students who required developmental education had a graduation rate almost 12% lower than students who did not require developmental education.

Concerning the research question about graduation rates in the 2015 academic year, the parametric dependent samples t-test again revealed a statistically significant difference, $t(78) = -15.35$, $p < .001$, Cohen's $d = 1.36$, a large effect size (Cohen, 1988). Students who required developmental education had an 11% lower graduation rate than students who did not require developmental education in the 2015 academic year. Descriptive statistics for these analyses are delineated in Table 1.

Table 1: Descriptive Statistics for Graduation Rates as a Function of Developmental Education Status

Year and Status	n of community colleges	M	SD
2014			
Required	78	9.83	5.65
Did Not Require	78	21.73	8.06
2015			
Required	79	11.00	6.21
Did Not Require	79	22.17	9.77

For the third research question regarding persistence rates in the 2014 academic year as a function of developmental education enrollment, the parametric dependent samples t-test revealed a statistically significant difference, $t(77) = -12.46$, $p < .001$. This difference represented a large effect size (Cohen's d) of 0.85 (Cohen, 1988). In the 2014 academic year, students who required developmental education persisted at a rate 7.6% lower than students who did not require developmental education.

For the research question regarding persistence rates in the 2015 academic year, the parametric dependent samples t-test again revealed a statistically significant difference, $t(78) = -9.73$, $p < .001$. This difference represented a moderate effect size (Cohen's d) of 0.72 (Cohen, 1988). Students who required developmental education had persistence rates 7.1% lower than students who did not require developmental education in the 2015 academic year. Readers are directed to Table 2 for the descriptive statistics for these analyses.

Table 2: Descriptive Statistics for Persistence Rates as a Function of Developmental Education Status

Year and Status	n of community colleges	M	SD
2014			
Required	78	23.87	8.26
Did Not Require	78	31.53	9.47
2015			
Required	79	24.56	9.20
Did Not Require	79	31.68	10.46

VIII. DISCUSSION

Analyzed in this investigation were the graduation and persistence rates as a function of developmental education at Texas community colleges in the 2014 and 2015 academic years. Students who required developmental education graduated at a rate statistically significantly lower than students who did not

require developmental education. Students who required developmental education also persisted at a statistically significantly lower rate than students who did not require developmental education. Even after Texas state initiatives in 2010, 2011, and 2012 intended to transform developmental education (Texas Higher Education Coordinating Board, 2012), the cohorts of students entering in Fall 2011 and Fall 2012 graduated and persisted at starkly different rates as a function of their developmental education enrollment. Persistence rates for the cohort of students who required developmental education who entered in 2012 were near 5-year lows in the 2015 academic year at 24.56%, lower than when they entered. Persistence rates for students who required developmental education were 26.28% in the 2012 academic year (Priesmeyer & Slate, 2015).

Lest readers over generalize the findings of this study, the sample of students whose data were analyzed herein was limited to community college students in Texas in the 2014 and 2015 academic years only. Therefore, the generalize ability of these results to other groups of students is not known. Additionally, Boylan and Saxon (1998) suggested caution when using long term retention and graduation rates to evaluate the worth of early college interventions. Boylan and Saxon (1998) suggested, "it is best to consider retention and graduation rates for developmental students within the context of the general institutional rates of retention and graduation" (p. 11). Within the context of their respective institutions, "developmental students perform slightly better than other students at two-year institutions and slightly worse at four-year institutions" (Boylan & Saxon, 1998, p. 12). However, the results of this study are congruent with current research in the field (Bailey & Cho, 2010; Bailey, Jeong & Cho, 2010).

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Using the Jigsaw Method for Meaningful Learning to Enhance Learning and Rentention in an Educational Leadership Graduate School Course

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Abstract- This qualitative case study examined factors that were both successful and unsuccessful along with the attitudes and preferences of educational leadership graduate students towards working in an online cooperative jigsaw blog project, in which each student had an active role for each topic addressed throughout the semester. The theoretical framework for this study was based on the work of Novak (2011) and Ausubel (1960). Their theories explore how the learner processes large amounts of meaningful material from verbal and textual formats in classroom settings. Analysis of the online questionnaire and face-to-face interview data indicated that the graduate students enrolled in the course effectively learn when they are learning collaboratively, in smaller chunks of information at a time, as subject matter experts and have an ease of access to the learning materials. Students also preferred non-traditional methods over traditional lectures, and become more involved when they participate in the evaluation of their peers. Results also revealed that students disliked learning using the jigsaw method when there were missing pieces to the blog postings, a lack of quality in the postings, a lack of accuracy, a repetition of information in the blog and a lack of peer and instructor feedback.

Keywords: higher education, jigsaw method in teaching, teaching and learning, blogs.

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Keywords: *higher education, jigsaw method in teaching, teaching and learning, blogs.*

I. Introduction

Despite the advent of online and mobile technologies, teaching and learning in institutions of higher learning has not drastically changed in decades, Pedagogies often ardently remain the same. According to Hurtado et al., (2012), 45 percent of the faculty in higher educational institutions report the continued practice of the lecture as their instructional delivery method. Yet, a large body of evidence has shown that this instructional delivery method is less effective than other pedagogies, which actively involve students and give them more control and accountability over their own learning (Pascarella & Terenzini, 2005). What is needed for students, in order to become successful learners, are other pedagogies which encourage and promote active learning and meaningfully social interaction with peers and their instructor (Pascarella & Terenzini, 2005).

II. Review Of Literature

The Greek teacher and philosopher Socrates, taught his students primarily through dialogues, in which his students explored topics through questioning. Students were active learners as opposed to passive recipients of knowledge. They were expected to explore, make connections and create new meanings. Others such as Seneca encouraged students to teach one another cooperatively. He was known for saying that when someone teaches, he would learn twice (Johnson, Roger, Johnson & Smith, 1998). Further along in history, philosophers such as Johann Comenius otherwise known as the "father of modern education", have advocated pedagogies that are student centered (Henry, 2010). Comenius is commonly known for this method of teaching through the senses. He believed that learning is an active function which needed more than just text, but illustrations as well. In addition, Comenius believed that students would gain a great understanding by learning from their peers (Johnson, Roger, Johnson & Smith, 1998).

Cooperative learning has long been an established pedagogy throughout the ages. In contemporary times, others such as Lev Vygotsky have proposed that "cooperative efforts to learn, understand, and solve problems are essential for constructing knowledge and transforming the joint perspectives into internal mental functioning" (Johnson, Johnson & Smith, 1998, p.4).

a) Cooperative Learning

Human society has become more and more dependent upon others for survival. Humans for example have been dependent upon others daily for their energy, food, transportation, and medical needs, etc. Humans have learned to cooperate with one

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another and this spirit of cooperation has evolved into a commonly known instructional method, cooperative learning (Bulut, 2010). Cooperative learning is a method in which small groups of four to six students work together to accomplish a common educational goal. Students are equally accountable and share the rewards, recognition or the failures. Success or failure is contingent upon collaboration of individual efforts (Slavin, 1989). The theory behind cooperative learning accepts that students seem to work harder on tasks for which there are obvious rewards and they will not perform acceptably on those tasks that deliver a reprimand or no reward. (Johnson, Johnson & Houlbec, 1994). Cooperative learning is intended to deliver motivations for group members when they participate in a group wide task. "Cooperative learning is employed by many educators and psychologists as a new instructional method because it has considerable effect on student's academic achievement, self-esteem, motivation, and attitude toward classes, as well as on retention and class socialization "(Johnson & Johnson, 1985, p. 113).

Cooperative learning demonstrates its' strength from the three basic elements of positive interdependence, interaction, and accountability. The first element, positive interdependence is a powerful binding force when each group member recognizes that their efforts as a collective make a difference and that if one success or fails, all will succeed or fail (Johnson & Johnson, 1985). Teams rely upon each other to provide a level of proficiency and if a team member performs poorly, the whole group effort will suffer and their evaluation will result being graded as substandard. The second element, of interaction, is promoted when students realize that there is strength in numbers by the group interdependency and therefore become better engaged at the task at hand both individually and cooperatively. Each member understands the importance of sharing ideas and resources, helping and inspiring each other. The last important element, accountability is realized through their interdependency. Both individual and group accountability are present in cooperative learning. Individual accountability exists when the performance of each student is evaluated by the group in order to decide who needs additional support in learning the task at hand. Group accountability exist because all team members are responsible to the whole group, consequently groups rely upon each other to do their part. By participating in cooperative learning, each team member becomes stronger and gain confidence and competency (Johnson & Johnson, 1985).

b) *Benefits of Cooperative learning*

Cooperative learning as a method of instruction is beneficial for students (Johnson & Johnson, 1985). It brings about positive emotions since individuals have a sense of belonging and accomplishment. Students become more satisfied learners in cooperative learning situations as opposed to the traditional lecture. Students in cooperative groups tend to show "…higher academic achievement, greater persistence through graduation, high-level reasoning and critical thinking skills, deeper understanding of learned material, greater time on task and less disruptive behavior in class, lower levels of anxiety and stress, greater intrinsic motivation to learn" (Felder & Brent, 2007, p. 1). In addition, learning cooperatively enhances learning for weak students since they may quit when confronted with difficulty. Whereas, in cooperative situations, these students are encouraged and supported by their teammates. Stronger students on the other hand are aided by being motivated to not skip any sections by feeling the responsibility of belonging to a team (Terenzini, etal., 2001).

c) *The Jigsaw method*

The Jigsaw method is one cooperative learning strategy proposed by Aronson (1971) has been employed by hundreds of school across the nations and has been heralded with much success (Johnson & Johnson, 1992). This instructional method divides a block of knowledge such as a book chapter or unit of study into smaller manageable chunks. Teams of individuals are formed with each person being responsible for a specific chunk of the topic, subsequently becomingan expert for that chunk of knowledge (Aronson, et al., 1978).Typical elements that are outcomes of the jigsaw method are: positive interdependence, individual accountability, promotion of peer interaction and the development of social skills (Weidman & Bishop, 2009; Johnson & Johnson, 2008). According to Weidman and Bishop (2009), the jigsaw method typically follows a specific sequence of events. The first step occurs when the instructor has decided upon a topic to be researched or presented, then afterwards students are then divided into small cooperative groups. This small group, according to Aronson (2000) is typically referred to as the "Home Group". Secondly, students are assigned a smaller unit or chunk of body of knowledge and "…each participant is responsible for solving a portion of the problem at hand, while in collaborative situations, the participants are mutually involved in shared activities; they must coordinate their efforts if they are to solve problems together" (Lipponen, 2002, p.65). In essence, each participant becomes the expert. The third step is for each expert group member to "…discuss the nuances of the subject with their teams to teach their colleagues" (Kordaki & Siempos, 2010, p.68). The final step is for the learners to assess their peers (Weidman & Bishop, 2009; Kordaki & Siempos, 2010).

d) Benefits of the Jigsaw method

The jigsaw method offers a variety of benefits for the students such as an increase in active participation in the course, self-esteem, and focused attention spans (Kordaki & Siempos, 2010).

The jigsaw method allows for the creation of an atmosphere where the student actively participate more in the course and takes ownership over their learning (Hedeen, 2013). Students also become more interactive with each other compared with traditional methods of instruction. As a result of this increased interaction, greater social bonds are promoted within the group. (Millis & Cottell, 1998). The instructor acts as a facilitator or a coach rather than a lecturer or deliverer of knowledge with students being knowledge gatherers and synthesizers (Tamah, 2007). Students are able to deeply understand the lessons when they learned it in smaller meaningful chunks (Huang, et al, 2014).

This method is also good for students in the affective domain. The jigsaw method implementation was revealed in studies that students were more eager to participate in classroom events while demonstrating a greater sense of self confidence and self-worth (Mengduo & Xiaoling, 2001; Al-Salkhi, 2015; Aronson & Patnoe, 2011).Thus according to Aronson and Patnoe (2011), student academic performance and an affinity learning increased.

Another benefit to using the jigsaw method is an increase and focused student's attention spans. This may be due to students held responsible to one specific chunk of information and having accountability to others in learning the topic at hand. Students seemed to become better engaged and aware of classroom activities. It was easier for them to communicate ideas since they were more confident and aware. Students were listening attentively and responded easily to the ideas of their peers and friends more immediately (Mengduo, & Xiaoling, 2001)

e) Blogs

A delivery method for the jigsaw cooperative method in an online class is the use of a blog in a learning management systems such as Black Board. The term blog is an abbreviation for "weblog". In simple terms a blog is an online journal where a person can share information with others on a mutually accessible website. (Bouwma-Gearhart & Bess, 2012).

In the classroom, the blog is a medium which allows teacher to student, student to student dialogue to occur. Students are able to post information and share it with their peers. In a study conducted by Bartlett-Bragg (2003) the results revealed that blogs were "…. a joint activity through which students enjoy communication with each other and create an informal network. This communication is enjoyed by students and encouraged by academics. It allows a process of 'mind sharing (p.393).

f) Benefits of Blogs

Blogs have proven to be beneficial in educational environments. For example, Ferdig and Trammel (2004), revealed four beneficial aspects of from student blogging. The first one was that blogging assisted students in become experts in the area being researched. This is very similar to the advantage of the jigsaw method. Williams and Jacobs (2004) concluded that, students were able to learn equally well from participating in blogs as opposed to teaching from the instructor or a textbook. Secondly, students were able to become invested in their work by taking pride or having a sense of ownership in their learning. Attwell's (2007) research in blogging supported this conclusion by stating that learners have taking more control in their own learning by producing more content.

Thirdly, the blog enabled students to participate equally in a learning community, where all shared equally. Students are freer to post information and become a community of learners. Finally, Ferdig and Trammel's (2004) study concluded that blogging allowed for opportunities for students to share unique viewpoints freely, as opposed possible inhibition in face-to-face discussions. Dickey (2004) also agreed with this by stating that blogs can permit learners who have been disregarded in the classroom by their peers, to express themselves more freely. Learners are no longer isolated or frustrated because with the use of blogs, they are now able to post their thoughts online with blogs.

g) Theoretical framework

The theoretical framework for this study is of the study is based on Novak's (2002) meaningful learning and Ausbel's (1960) theories. Novak (2011) referred to meaningful learning as "where the learner seeks to integrate new knowledge with relevant existing knowledge" (p.1). If students solely rely on learning by rote memorization, there is no meaningful integration of new ideas and therefore cognitive structures within the mind are reconstructed. In essence, learning does not take place by rote learning (Novak 2002). Novak (2002) referred to meaningful learning occurring on "…a continuum, depending on the quantity and quality of relevant knowledge possessed by the learner and the degree of her/his effort to integrate new knowledge with existing relevant knowledge" (Novak 2002, p. 552).

Novak's (2011) work which is based upon Schwab's theories (1973), suggests that meaningful learning includes five basic elements. These elements are:"…teacher, learner, subject matter, context, and evaluation, each of which must be integrated constructively to effect high levels of meaningful learning" (p.1).

The first element, the teacher, is one that was based upon the teacher as the deliverer of instruction, thus requiring the recipients, the students, to memorize the information given. Teachers previously has been

responsible for arranging the instruction and assessment while guiding their students to learn by rote. This model has endured centuries and is still in place throughout schools. Much of what educators call learning is rote and is often called "situated cognition", which is defined as what is observed by the learner often is not transferred to another context (Brown, Collins, & Duguid, 1989). Brown, Collins, and Duguid (1989) found that when students imitate solving math equations by following the steps, they were unable to apply them afterwards in similar situations. Typically, teachers in K-12 and in higher education have been the deliverer of knowledge. This one-way transmission of knowledge is typically assessed by essay or multiple choices quizzes and provides very little assessment other than immediate recall (Novak, 2002). This model has persisted across the decades and is still very prevalent in our educational institutions. According to Novak (2011) the teacher's instructional role should be that of a coach for learning rather than a distributor of information.

The second element is the learner. In this element although the teacher can provide many meaningful experiences, but ultimately the learner must take primary responsibility in their own learning (Novak, 2011). Meaningfully learning is "…accompanied by some degree of affective experience and this affective connotation colors to some extent the meaning of or concepts (Novak 2011, p.5). The learning must make sense of the new information by taking prior knowledge and integrating into personal meaning. With rote learning there is often very little emotional dedication other than the recalling of the learning. On the other hand, significant learning occurs when the learner chooses to incorporate new knowledge with prior knowledge. Learning now makes sense to the learner, with a positive affect (Ausubel, 1960). Ausbel's (1960) theories explore how the learner processes large amounts of meaningful material from verbal and textual formats in classroom settings. Ausubel (1960) views knowledge as being part of an interworking organization. Ideas must be joined together in a logical manner, since the human mind follows rules of logic. According to Ausubel (1960), the mind is like set of boxes, in which smaller boxes or the ideas, fit neatly within a sets of larger boxes. "Cognitive structure is hierarchically organized in terms of highly inclusive concepts under which are subsumed less inclusive sub concepts and informational data" (Ausubel, 1960. p. 267). Aususbel's (1960) learning theories hold that subsumption allow for learners to understand new knowledge and incorporate it into our cognitive structures. Thus, authentic learning is facilitated by the scaffolding of information and placing it in proper "boxes" for retention and future use. "Subsumption," Ausubel (1962) informs us, "may be described as facilitation of both learning and retention" (p.217). "If this ideational scaffolding is clear, stable, and well organized," Ausubel and Fitzgerald (1962) assert, "it is reasonable to suppose that it provides better anchorage for new learning and retention than if it is unclear, unstable, and poorly organized" (p. 244).

Subject matter, the third element refers to not just a large body of facts and details in a field of study, but rather a structure of "big ideas". What often occurs in today's schools involves an endless pouring of information to be memorized with little regard to students creating meaningful learning experiences around big ideas (Novak, 2011). Big ideas should be sequenced around sound instruction. Ausubel (1960) felt that once these super ordinate concepts were understood, then meaningful learning around big ideas took place. "Brain studies by Valadares and Moriera (2009). also lend support to the fundamental idea in Ausubel's (1960) theory that knowledge stored during meaningful learning is fundamentally organized differently than knowledge learned by rote, and affective associations are also different" (Novak 2011, p.3)

The fourth element revolves around context. The context refers to the conditions surrounding learning. For example, increased global competition is driving the United States economy. In this sense, it is the context of this competition that is forcing educators to rethink the how, what, when and the whys of teaching and learning. "For the last century, education has been the principal driver for upward mobility of individuals and countries and this is even more likely to be the case in the future (Novak, 2011, p. 7).

The last element, evaluation is according to Novak (2011), the most essential, since it is designed to gauge growth in the student's understanding of the subject matter. Typically, assessments have traditionally not measured gains in growth. Instead they have simply measured recall of facts. Change in the ways assessments is handled is not an easy undertaking nor does it require any more financial expenditures; however, it is possible with rethinking what truly matters, such as the big ideas.

These elements followed the thinking of Ausubel and Robinson (1969) when they stated that "…material presented to the learner should be capable of being related in some sensible fashion" (p. 46).

New information must be fitted into a larger pattern or whole. Second, the learner must possess relevant ideas to which the new idea can be related or anchored. The learner must already have appropriate subsuming concepts in his or her cognitive structure. Finally, the learner must actually attempt to relate, in some sensible way, the new ideas to those which he presently possesses. If any of these conditions are missing, the end result will be rote learning. (p.46)

h) Purpose of the Study

The purpose of this study was to observe how effectively the Jigsaw cooperative learning method

would be viewed as an instructional delivery model as opposed to the traditional lecture and student presentation model in a graduate Educational Leadership class.

i) Statement of the Problem

Students whether they are in Kindergarten or graduate school often learn by rote. Memorizing facts and figures seems to have been and be the norm in many institutions throughout society. "Rotely learned materials are discrete and isolated entities which have not been related to established concepts in the learner's cognitive structure" (Ausubel, 1963, p.215). Consequently, concepts that are simply memorized are easily forgotten because they have not been neatly stored in the portions of the brain that can retrieve them (Ausubel, 1963). Learning which is retained and applied to a context is meaningful. In order to apply the knowledge students, need to be able to have meaningful experiences instead of rote memorization."Meaning occurs when learners actively interpret their experiences using certain internal, cognitive operations" (Driscoll, 2005, p.115). Furthermore, according to Ausubel (1963), textual materials presented in our classes, should be meaningful.

The researcher came across this problem in a graduate Educational Leadership course that he was teaching on the administration of special populations. In this course, each student was assigned a special program, such as Migrant Education and proceeded to conduct research on areas which public school administrators needed to become knowledgeable. The research noted that once the student presented in class, classmates were either absent for other student's presentations, not attentive or were just passively listening to the other presentations, without any engagement. Hence no meaningfully learning beyond the student's own presentation took place. The researcher wanted to change this and created a system utilizing the jigsaw cooperative learning method as outlined in the review of the literature. The research problem is that much of learning taking place in this graduate school course is often memorized with larger chunks of material being processed. In addition, learning is not social and is often done in isolation and uncooperatively.

j) Research Questions

1. What were the elements of the jigsaw method that were reported by the graduate students enrolled in the course as being successful ?
2. Why were these elements of the jigsaw method that were reported by the students as being unsuccessful?

III. METHODOLOGY

a) Setting and Participants

The participants of this study were thirteen students in Educational leadership graduate students enrolled in an Administration of Special Populations course. Twelve of the thirteen students were females. The majority of the participants had been half way through their program in Educational leadership. Student's ages ranged between 20 to 50 years old.

None of the students prior to the course had experienced using the jigsaw method either in an undergraduate or graduate course.

b) Qualitative approach

The central methodology of this study is based upon the principles of qualitative research. Qualitative research is a methodology that is used in aiding researchers to further understand or to explain the meaning of a social phenomenon "…with as little disruption of the natural setting as possible" (Merriam, 2009, p.5). Reality is constructed by the participants themselves and it is the aim of qualitative research to create understandings of the experiences of the participants. What is of upmost importance is to document and construct meanings from the participant's views and not of the researchers (Merriam, 2009). Since it is the goal of the researcher to understand a participant's views, selection of the participants is typically nonrandom and purposeful and in the case of this study.

c) Case Study Research

This study further employs that use of a case study, which according to Yin (2003) is one of several manners in conducting social science research. Yin (2003) states, that a case study research is the preferred method when "how or why questions are being posed" (p.1). This study utilized the case study approach since; case studies typically are used to contribute to the body of knowledge of and individual or group (Yin, 2003). The case study should be "…intensive, holistic description and analysis of a single unit or bounded system" (Merriam, 2009, p.13).

In addition, the case study examines a "phenomenon within a real-life context, especially when the boundaries between phenomenon and context are not clearly evident" (Yin, 2003, p13).

This case study was *particularistic*, in nature since it focused upon one particular event, which in the case of this study was a project in a semester long graduate course (Merriam, 2009). According the Merriam (2009), the specific case is important because of what it may reveal about the phenomena being studied. "The specificity of focus makes it an especially good design for practical problems-for questions, situations, or puzzling occurrences arising from everyday practice" (Merriam, 2009, p.29).

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In developing research questions for case studies, Yin (1994) suggests that "how" and "why" questions have distinctive benefit. Furthermore, case studies should be used in exploring the process, which should "describe the context and population of the study" and discover "the extent to which the treatment or program has been implemented" (Merriam, 2009, p.33). In the case of this study, the research is striving to understand the effect up student's perceptions about the jigsaw method of learning using cooperative groups.

d) The Jigsaw process

In this study, the lead research had taught an educational leadership graduate level course that covered the Administration of Special Instructional Programs, which typically covers special instructional programs such as Bilingual, Migrant, Special and Gifted and Talented education. The lead research had taught this course for three semesters and had assigned each student research and presentation project for only one of the special populations outlined in the syllabus. Although this research and presentation was one of serval assignment, it served as the main content of the course. The lead researcher had noticed a disturbing pattern during each semester of either student being absents or inattentive during major presentations. Consequently, the lead researcher felt that in order for students to become actively engaged in the major presentations, he decided to change the instructional delivery for both the online and face-to-face classes. After conducting some research on interactive and collaborative learning, the instructor decided to create a jigsaw activity for each of the special instructional programs. Each instructional program was broken down into distinct jigsaw pieces (categories), such as the following: a broad over view of your topic, Key traits of the special populations, legal aspects of the special population, admission, monitoring exiting, an organizational chart of a district, "What are Key things that a campus administrator needs to know about the Special Population?", "What every teacher needs to know", Key assessments (Federal Funding Sources, State/Local Funding Sources, and a word from an advocate. Each week, a matrix of jigsaw pieces was created by for each special population which assigned each student the category assigned for that special population. A team leader for each special population was selected along with their assigned presentation date. The team leader was responsible for compiling all the jigsaw pieces, the categories, and creating a presentation, that was presented by them. In the event that someone did not post anything, for their category, the team leader made an effort to contact that person and the professor. If nothing has been done by that person, they would receive a zero for their jigsaw piece or category and the team leader is responsible for posting the missing information for that category.

IV.   Data Collection and Analysis

a) Online Questionnaire and Interview

According Merriam (2009), "…the case study does not claim any particular methods of data collection or data analysis. Any and all methods of gathering data, from testing to interviewing, can be used in a case study" (p.28).

As parts of the instrumentation for this case study, graduate students enrolled in the course, were administered a forty-one item questionnaire based upon a four point Likert scale, which had the following response choices: Strongly Agree, Agree, Disagree and Strongly Disagree. The questionnaire in this study employed questions which were purposely similar in nature so as to elicit similar responses and establish reliability.

The other data source for this study consisted of an interview session, which according to Yin (2003) assists the researcher in directly focusing upon the case study topic. The interview in this study consisted of twelve questions which were designed to elicit open ended responses. Interview questions are guided conversations rather than ridged questions that allow the participants to openly remark from their experiences and express their thoughts about events (Yin, 2003). This allows for the process to become free flowing rather than inflexible (Rubin & Rubin, 1995). The main purpose of the interview is to acquire specific information. The researcher is striving to find out what the participants feel or think about a specific phenomenon In other words, researchers interview participants to obtain information that cannot be directly observed, such as feelings and perceptions (Patton, 1990).

V.   Results

Analysis of the questionnaire data and the face to interviews revealed the following themes: students had a positive experience with the jigsaw due to it being collaborative, learning was facilitated by being divided into smaller chunks of information, access using the classroom blog was easy, and students considered themselves as subject (topic) area experts.

Conversely, data analysis revealed that students felt that the following areas were drawbacks to the jigsaw project: there was missing information from the blogs, a lack of quality/accuracy, repeated information and a lack of feedback from their peers.

a) Positive experiences with the jigsaw

One hundred percent of the students either strongly agreed or agreed that they enjoyed the jigsaw class project. Students during the interview overwhelmingly stated that really enjoyed it and wanted to utilize this teaching method in their respective classrooms. Students revealed that many of them felt that such experiences should be included in their other graduate level courses, whether they were beginning or

advanced levels due to the collaborative nature of the jigsaw, they did not feel overwhelmed by the course.

Table 1 : Students' enjoyed the jigsaw (n=13)

Number	Question	SA	A	D	SD
Q3	I enjoyed the jigsaw project and I wish that I had more projects like this in other courses.	38%	62%	0%	0%
Q4	The jigsaw project was a good project for me since it allowed me to focus upon only 1 aspect of a special population.	69%	31%	0%	0%
Q8	I liked putting the pieces together.	31%	69%	0%	0%
Q9	I was motivated to work on my piece of the jigsaw because it was not overwhelming.	62%	38%	0%	0%

sa: strongly agree; a: agree; d: disagree; sd: strongly disagree

b) Collaboration

Both the questionnaire and face-to-face interview revealed that student's overwhelming reported enjoying the collaborative nature of the jigsaw. Many commented that they enjoyed the manner in which was constructed and expressed an appreciation of working in teams, as opposed to conducting their research assignments alone. They felt that their voice was heard in class because each of them were able to contribute to the body of knowledge constructed by themselves and their classmates.

All the students reflected that working in teams was a good experience for them. One indicated that it was "fantastic way for students to work together in gaining knowledge on a specific topic" .Another student stated that they believed it beneficial when everyone worked as a team because they were able to share information about that special population and did not "stress out over a big project on their own".Being provided with information from other students on the various topics has allowed them to see things from various perspectives and making it easier to understand key components.

Another student felt that they enjoyed that jigsaw project as well because it was an excellent technique to train others for professional positions, in which team members each contributed important pieces to a specific task. They stated that, "…this (sic) is a great experience to learn how to work with people with different personalities and different specialties pretty much."Thus the jigsaw project was enjoyed by the students due to its collaborative effort while eliminating the ideas of working in isolation.

In addition, students stated that they felt more accountable, since their classmate srelied upon their "puzzle pieces" for that topic. One student commented that they, "like being responsible for one piece of the jigsaw". They further stated that working this manner facilitated the comradery among classmates outside of the classroom. Working on the jigsaw created a social network similar to Facebook and encouraged classmates to ask their peers for help concerning classwork or other matters.

Table 2: Students' work best as a team (n=13)

Number	Question	SA	A	D	SD
Q11	I felt my voice counted in class.	54%	46%	0%	0%
Q12	I felt like I was part of a team..	62%	38%	0%	0%
Q14	I listened more during the presentations because I was responsible for a piece of the puzzle..	62%	31%	8%	0%
Q18	I work best when I am working with others.	46%	31%	23%	0%
Q33	I felt that my learning was dependent on my classmate's contributions.	38%	38%	23%	0%
Q34	I felt accountable to my classmates for posting the best information possible.	54%	46%	0%	0%
Q37	I did not feel peer pressure and was comfortable while sharing my work with my classmates.	38%	46%	15%	0%
Q38	Working a group project put less pressure on my learning about the special population.	46%	38%	15%	0%
Q40	I did not have any conflicts with my classmates while working on the jigsaw piece.	69%	31%	0%	0%
Q24	I think I would have learned more about a special population had I done the project alone.	0%	15%	62%	23%

SA: strongly agree; A: agree; D: disagree; SD: strongly disagree

c) Ease of access

Although the class was one hundred face-to-face, the instructor in this study utilized the use of

Blackboard as a vehicle to manage the class. Students collaborated through the use of Blogs and constructed weekly course content. They majority of the students in

the study acknowledged that online technology made it easier to research and post materials. They reflected that the Blog was an excellent medium for posting and accessing the content. At the end of the week each student was able read each other's postings and share them for class discussions for the next class meeting.

Table 3 Blogs are a positive experience Students (n=13)

Number	Detail	SA	A	D	SD
Q27	The Blog allowed for me to post my puzzle piece easily.	69%	31%	0%	0%
Q28	The Blog allowed for me to view my classmate's postings.	77%	23%	0%	0%
Q29	Blogs are an effective tool for peer learning.	69%	31%	0%	0%
Q30	The use of blogs improves my understanding of the special population..	46%	54%	0%	0%
Q32	I would recommend this method to other professors because the use of blogs improves my academic performance.	69%	15%	15%	0%
Q39	I can easily download the jigsaw pieces or the completed project on Black Board.	62%	38%	0%	0%

SA: strongly agree; A: agree; D: disagree; SD: strongly disagree

d) Smaller Chunks

One hundred percent of the students reported that they enjoyed learning and learned best about a topic when they researched smaller parts of the whole. Students expressed contentment for working with smaller chunks of information because they felt that learning was easier, more focused, and less over whelming Students felt learning easier when having to research and read postings with smaller pieces of information at a time. Smaller chunks of information about a topic did not seem like to burden to learn. Some students reflected that the jigsaw "…allows for certain areas of the topics to be broken down into smaller segments that make it easier to understand". One student stated that learning about a special population such as migrant education seemed more enjoyable due to fact that jigsaw was divided up that they could go back online and read or reread the blog prior to taking a quiz over the subject matter.

Learning with smaller chunks was also reported as being more focused. Students expressed that a broad amount of information was often difficult to take in. One student stated that, "If this assignment would have been assigned to me all at once, (sic) like the whole program, I don't think that I would have been able to complete it in one week. It is way too much information for one person to do alone. Furthermore, I really enjoy working on the Jigsaw every week and I feel that I get more out of the assignment like this." Another student exclaimed that when it came time to study for a quiz, they were able to understand the whole project because it took away stress from researching the whole topic.

In addition to being easier and more focused, learning in smaller chunks was reported as being less overwhelming by students. The data indicated that, students expressed concern about being overwhelmed throughout their graduate studies because of the amount of class work, family and work obligations. However, when questioned about working on the jigsaw pieces, students felt less overwhelmed due to "…working on smaller portions of the project in a group made the work load less verses working on it alone (sic)."Several students agreed and further stated that, "…working on one aspect of a project rather than the whole made learning less stressful."

Another student stated that, "…the vast amount of information for each topic is overwhelming, having to work on just one key aspect for each topic allows learner to focus and have a better understanding."

Table 4: Students learned with smaller chunks of information (n=13)

Question	Detail	SA	A	D	SD
Q10	I learned better about a special population by researching a small piece of all special populations as opposed to researching only one special population.	54%	46%	0%	0%
Q22	I learn best when I work on small pieces of information at a time.	46%	54%	0%	0%
Q31	I was motivated to participate since the jigsaw was only a small piece of the puzzle.	85%	15%	0%	0%
Q35	Learning complex concepts is easier when it comes in small portions	69%	31%	0%	0%
Q36	I retained the information on the special population more since I was responsible for a small portion.	54%	46%	0%	0%

SA: strongly agree; A: agree; D: disagree; SD: strongly disagree

e) Subject area experts

Upon compellation of their weekly jigsaw piece, students stated that they had felt like subject area experts. They felt their learning was deeper when they could focus on one weekly specific topic and took delight when they could contribute to the class content and discussions. They were able to report to the class and instructor in a well-informed manner and felt a sense of pride and ownership in their collaboration. One student revealed that they had done a similar exercise in their undergraduate studies and that they valued being a subject area expert. Furthermore, they enjoyed collaborating with their classmates and expressed a strong sense of collaboration and ownership over their researched contributions. Students explained during the interview that, learning does not always or should not always come from the instructor. In fact, when students taken on their own learning, they have a strong emotional attachment and feel a sense of ownership and accomplishment.

f) Areas that were drawbacks to the jigsaw project

The data also reported by the students in the questionnaire and interview also disclosed un successful elements. In answering Research Question Two, the following themes emerged: missing information, a lack of quality/ inaccuracy in the information, repeated information, and a lack of peer evaluation.

g) Missing information

After the weekly class presentations and discussions students noticed on occasion, some of the content posted was missing key information. The instructor followed up by filling in the missing gaps to the weekly jigsaw postings, but this occurred to late according to most of the students. During the week, while students were researching, posting and reviewing the blog jigsaw pieces and preparing for a weekly quiz, some students complained that there were too many blanks. One student explained that "…the thing that I dislike from the jigsaw project for this class is that I have found some students to leave their assigned part blank and I am not able to know if the part that they were assigned is not applicable for the program we are discussing that week or if they are just late to turn in their assigned part." Another student agreed and exclaimed, "…although the blog is great for obtaining information, it only functions correctly if all members are submitting their part. Blank sections by my peer's postings left me to have to gather the information myself and save it. This required that I invest more time."

h) Lack of Quality and Inaccuracy

Another drawback to the jigsaw was an occasional lack of quality in some of the individual postings. Students reflected how disappointing it was to post and review some of the postings only to find out that some of the information was poor and inaccurate. One student stated that, "…at times, additional time is being spent on researching items that should have been answered by students but were not thorough in their explanation." Most students stated that it seemed like a waste of valuable time having to verify the accuracy of the postings. A students, explained, that, "…instead of just focusing on our assigned part, we also have to verify that the information they have provided is correct or if the information they have not provided is because it does not exist in the program". Students reflected that they even began questioning their own blog postings. One stated, "As I complete my blog, I tended to doubt myself and I wondered if I have understood the information the correct way and if I am providing my classmates with the most essential and useful information of the assigned topic". All students agreed that the was a major flaw in the project, since it was time consuming, confusing and potentially harmful since this information could help them during an interview or their future career as an administrator. Furthermore, because of this, some students felt a lot of pressure on themselves because they to ensure to others that that information posting was correct, due to the fact that their classmates were counting on them to be accurate"

i) Repeated Information

Students reported that they also felt that another drawback to the blog postings was that occasionally there was repetition in the weekly postings. One student stated that, "…although I do not have very many negative things to say because I actually quite enjoy the blog jigsaw project, the only thing that I do dislike is the fact that at times some of the information although based upon different topics of the assignment at times tend to repeat the same thing." They further explained that they felt that it was due to the fact that when a person does research they have the tendency to categorize what they are writing very much like we do in the blog, but they also do not monitor what they are inputting into the research. Another reason for repetition would be due to while researching, some students were unsure of good resources to find current material for their jigsaw pieces. Consequently students would view their peer's blog postings and look up their references. Many expressed that by doing so, it was much easier than researching library databases or google scholar.

j) Lack of Feedback

One last item that students reported concerned peer evaluation. Although, they responded and like very well the instructor's feedback about their jigsaw postings, they expressed the need for peer approval and criticism. Over six-two of the student's responded that wanted to evaluate their peer's jigsaw puzzle pieces. One student stated that they, "would like to ask questions and discuss responses with my peers" They felt that this type of interaction would help others better

understand the material in the blogs. Most agreed that any type of peer feedback should also be similar to the rubric based instructor feedback, since it would provide an "…opportunity to go back and check flagged answers that we have concerns with". Lastly the explained that this allow allows for more social interaction and communication that the blogs begin to utilize.

Table 5: Students Evaluation of student jigsaw (n=13)

Question	Detail	SA	A	D	SD
Q41	I wo uld like to evaluate my classmate's jigsaw puzzle pieces	8%	62%	31%	0%

SA: strongly agree; A: agree; D: disagree; SD: strongly disagree

VI. Discussion/Conclusions

This study suggests that, if designed properly, the jigsaw is an effective teaching strategy which allows adult students to learn through socially collaboratively interaction and as opposed in isolation and rote learning. In this study, the teacher's role had changed to a non-traditional one. Learning as reported by the students had more meaning because the instructor was no longer the primary source of learning, instead learning was no longer a one way transmission of information from the instructor to the student. Students took on an active role and created the materials by researching and posting on the blog them selves. As Novak explained (2011) the instructor should take on new roles such that of an instructional coach rather than the dispenser of knowledge. The graduate students in this study preferred non-traditional methods over traditional lectures.

Because, the element of the teacher changed and was moved to a different role, students took more of a responsibility in their own learning. Students were able to become invested in their work by taking pride or having a sense of ownership in their learning. Learning in this study also became more student centered and interactive with the use of blog. When actively involved in the learning process, the graduate students felt that more effectively learned when they are actively involved in the process. Knowles (1980) agreed with this when he wrote that, "…there exists "a spirit of mutuality between teachers and students as joint inquirers" (1980, p. 47). "Since adults manage other aspects of their lives, they are capable of leading, or at least assisting in planning, their own learning" (Knowles, 1980, p. 47).Additionally, the graduate students in this study reported they were more attentive when they were actively involved in the process of the jigsaw method.

The study also suggests that it is also an effective technique for teaching broad concepts or "Big Ideas" such as the concepts of the Special Populations discussed in this study's graduate class. The graduate students in this course reported that they learned effectively when information was gathered and reviewed in smaller "chunks". Student perceptions reflect that learning large amounts of information was easier to work with as a cooperative group as opposed to individually. As Ausubel (1960) stated, ideas should be joined in a manner that makes sense so that the mind will create order. This follows Ausubel's (1960) subsumption theory, since working in the jigsaw, allowed ideas to be hierarchically organized. Instead of memorizing large blocks of information, big ideas were be sequenced around sound instruction.

Lastly, students used web based technology as an effective vehicle for learning through the use of the blogs. Blogs permitted the students in this study to communicate freely asynchronously and seamlessly across distances. Learning was not inhibited by face-to-face classroom dialogues in which sometimes does not allow all students to contribute. Instead the blog allowed all students opportunism to share unique viewpoints with the possible inhibition in face-to-face discussions. This closely aligns to Novak's (2011) ideas of context, since it allows for other ways of staying connected with each other without any boundaries of space or time.

a) Limitations and Recommendations

The study was conducted during one semester out of thirty-six-hour program. The study's population size was limited to thirteen participants. Of the thirteen participants, twelve students were female. None of the student had any prior experience with the jigsaw method as a student or teacher. Further research should be done replicating the conditions of the study. In addition, online and face-to-face instructors, should take into account the success and drawbacks when designing their learning activities and environments. Whether face-to-face or online, instructors of adult students should continue to make learning more interactive, cooperative and a social experience. In addition instructors should break down lessons into smaller manageable chunks of information that is actively monitored for inaccuracies, duplications or omissions and critiqued by both the instructor and students. With all this in mind, learning can become more enjoyable and meaningful for adult students.

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Culture, Self-Regulation and Academic s in Preschool

By Ruth Guirguis

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Abstract- The development of self-regulation in early childhood students is imperative for the development of higher level thinking skills. Thus, the ability to self-regulate has been link to academic achievement and as a better indicator of school readiness. However, the research does not look into culture or Cultural factorsas a variable that may influence the development of self-regulation. Minority students such as Latino and African Americans are considered to be at a higher risk for not developing these regulatory skills. Hence, this research looks at the associations between early childhood students, self-regulation, academics, and culture. Specifically, the research analyzes results from candidates that were either Latino American culture and African American culture.

Keywords: self-regulation, culture, early childhood culture, self-regulation, and academics in preschool.

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CULTURE,SELF-REGULATION,ANDACADEMICSINPRESCHOOL

Strictly as per the compliance and regulations of:

Culture, Self-Regulation and Academics in Preschool

Ruth Guirguis

Abstract- The development of self-regulation in early childhood students is imperative for the development of higher level thinking skills. Thus, the ability to self-regulate has been link to academic achievement and as a better indicator of school readiness. However, the research does not look into culture or cultural factorsas a variable that may influence the development of self-regulation. Minority students such as Latino and African Americans are considered to be at a higher risk for not developing these regulatory skills. Hence, this research looks at the associations between early childhood students, self-regulation, academics, and culture. Specifically, the research analyzes results from candidates that were either Latino American culture and African American culture.

A one-way ANCOVA was conducted to compare the development academics for both cultures while controlling for self-regulation. A total of 60 preschool students participated in this study. The overall ANCOVA was significant, F (1,66) = 11.50, $p<$ .000. The strength of the relationship between the independent variable and the dependent variable was very strong, as assessed by np^2 with the Culture factor accounting for 25% of the variance in the dependent measure accounting for the constant level of self-regulation. Results and a further discussion with regards to self-regulation and each culture are discussed.

Keywords: self-regulation, culture, early childhood culture, self-regulation, and academics in preschool.

I. Introduction

The capacity to consciously regulates one's overall behavior and emotion is central to human nature (Bronson, 2000). Research suggests that cultural factors can affect academic achievement (Li-Grining, 2012). Thus, the ability to teach students self-regulation skills in a culturally supportive way can assist students to become academically competent. Culturally supportive teaching of self-regulation is considere done effective way in closing the achievement gap between minoritiesin schools (Li-Grining, 2012). Self-regulation is the ability for a child or adult to control emotions, impulses, and cognition. In early childhood, the ability to self-regulate requires substantial guidance from adults as childrenare merely developing these skills (Bronson, 2000).

Educators and adults model behavioral and emotional responses that children come to understand through non-verbal or symbolic communication. Bronson (2000) suggests that when a child is given the responsibility to care for younger siblings, they can model these learned responses. This, being common practice in some minority families in the U.S, develops self-regulation skills. Consequently, there is no current body of research that measures the relationship between cultureor the cultural upbringings of African American and Hispanic/Latino preschool students and levels of self-regulation and academic achievement (Liew, 2012; Raver et al., 2011).

II. Culture

Most subcultures, in the United States are based on the ideology of maintaining one's own values and/or perspectives on identity, role functions while allowing a certain level of inclusion/adoption of some American society's values and core traditions. There are two main types of culture that exist and often do not become subcultures. Meaning, they do not adopt new values into their traditional practices. A subculture is a group of people within a major culture that distinguishes themselves from the majority of the culture. Henceforth, a subculture has some similar and some unique attributes when matched with the major culture.

Individualistic cultures, for example, focus on the concepts of self-reliance, the ability to make an independent decision without factoring in immediate and/orextended family, and the right to a private life. On the contrary, in collectivist cultures one is expected to consider one's immediate and extended family/tribe when making any decisions. The term familism is used to describe the dominant social emphasis that is given to the needs of the family/group first. In fact the term of familism has been suggested by research to be key in students' socio-emotional components of development (Crosnoe, 2006; Galindo & Fuller, 2010).

III. Hispanic Americans and African Americans

African American and Hispanic/Latino Americans are two major collectivist subcultures in the U.S today. Both cultures have many similarities, such as the aspect of encountering degrees of systematic discrimination in today's society. These cultures have also faced the negative consequences of individual racism and having to accept their minority status. Yet, according Caughy, O'Campo, Randolph, and Nickerson (2002)these issues have allowed them to maintain their

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main aspects of their respective identities and cultures. The inability for child to maintain ones cultural identity can affect the ability of self-expression in school. Thus, compromising academics (Crosnoe, 2006).

IV. AFRICAN AMERICAN CULTURE

Consistent with Caughy, et al (2002) the African American culture focuses on specific cultural upbringing elements that differ from the Hispanic/Latino culture. These cultural aspects have a direct impacton their academic development (Caughy et al., 2002). Specifically, they impact the regulatory aspects that provide key competencies for students in a school environment. The African American culture historically was severely discriminated against and yet, accomplished many of the civil rights they have today. Nonetheless, many African Americans still confront challenges in the upbringing and in the maintenance of their cultural values. African Americans must "negotiate three realms of experience: the mainstream, the minority, and the Black cultural experience" (Caughy et al., 2002, p. 1611).African American parents must teach their children to function, become social, and functional U.S. citizens while accepting the concept of being perceived as a minority that has negative connotations (Caughy et al., 2002).

Although African American families are more of an individualistic culture, role flexibility can take place. Categorizing them as more of a collectivist culture. Role flexibility is when the mother sometimes plays the role of the father and thus functions as the head of the family. Additionally, not only is this culture matriarchy in nature but role flexibility also exists when older siblings in the family must sometimes carry out or function as a parent or caregiver to younger siblings. The concept of role flexibility among African American families can be extended to include the parental role assumed by grandfather, grandmother, auntsand cousins. Role flexibility in younger children influences their emotional and behavioral development and acquisition of higher executive functions (Raver, 2009).

V. HISPANIC AMERICAN CULTURE

Hispanic/Latino Americans confront different obstacles than African Americans in society. According to Li-Grining (2012) this particular collectivist subculture focuses around the concepts of *familism*, acculturation, language and immigratory factors. The Hispanic culture centers on the needs of not only the immediate family but that of the extended family when making decisions. This subculture, typicallynot only adheres to their cultural values but also to the adoption of that of the Anglo-American culture (Li-Grinning, 2012).

This particular subculture also faces challenges that affect the adjustment component of children in the U.S. as a result of being of immigration status and facing language barriers. As Bronson (2000) states, children learn emotional and behavioral responses from their parents and the being of an illegal status in the U.S makes parents worry about their future thus, children grow up with fear of separation from their families. This in turn can make them more reserve in school and negatively influence their overall development. Children very early on take a role of becoming the family's interpreter and this responsibility on young learners can influence their regulatory acquisition skills. Taking the role to care for younger siblings affect the disposition and development of self-regulation (Bronson, 2000). As with the African American culture this aspect in Hispanic/Latino students has a negative cultural identity and conflicts when adjustmenting to the Anglo-American culture (Leroy & Manning, 1992). Additionally these factors severely affect the social and academic components in child development. It also affects self-regulation and academic achievement (Li-Grining, 2012; Raver 2009). Thus, it is important to understand and teach regulatory skills among minority cultures as these aspects influences their academics (Liew, 2012; Raver et al., 2011).

VI. PRESCHOOLERS TODAY

Today's kindergarten children are expected to be able to self-regulate their emotions and behaviors when entering school. They are expected to specifically internalize and follow set classroom rules (Denham et. al, 2012), as well as know a myriad of literacy and mathematical concepts. Miller and AlmonS (2009) report that 76% of New York City kindergarten teachers spend more than an hour of their classroom time in literacy instruction, 26% of them spend more than an hour on math, and about 79% report spending time on testing preparation. Based on this data, it is important that young children attend a preschool setting in order to handle and be prepared to meet the academic rigor that must be mastered beyond their developmental level in a formal school setting (Miller & Almon, 2009). Interventions that facilitate the development of self-regulation as a critical component have been designed and implemented in some preschools and/or Head Start Programs (Rimm-Kaufman & Wanless, 2012).

VII. SELF-REGULATION

Bodrova and Leong (2008) state that self-regulation is best taught to young children by allowing them creative opportunities in which to practice the rules of certain behaviors and apply those rules to new situations. Based on the Vygotskian perspective the ability to act intentionally involves the internalization of higher mental functions that develop through social relations between parent/caregiver and child, teacher and child, or older peer and child. Self-regulation has also been defined as having two major factors. The first

refers to the capacity to monitor inhibitory aspects. Inhibitory control refers to the ability to suppress impulsive thoughts or behavior and resist the surrounding temptations and additional distractions. The second factor is working memory, which is the ability of a child to hold, update, and manipulate verbal and non-verbal information. Self-regulatory skills represent an important developmental factor in young children as this allows them the control over their thoughts and feelings and behavior.

In a classroom setting the ability to self-regulate is shown when a child stops doing what they are engaged in when a teacher says to stop. This can extend to an academic context because children's level of self-regulatory skills correlates to the level of attention given to math and literacy concepts in school (McClelland et. al, 2007). Research (Bronson, 2000; Tominey & McClelland, 2011; Winsler, Ferny hough, & Montero, 2009; White bread, Coltman, Jameson, & Lander, 2009) suggests that the development of self-regulation allows for children to later self-regulate their learning, impacting their academic performances in a school setting.

Preschool students who lack strong self-regulation skills have difficulty performing in classrooms with set curriculums and agendas (Alexander, Entwisle, & Dauber, 1993; Blair 2002; McClelland et. al, 2007; Raver, et al., 2011). Children with low levels of inhibitory control have difficulty paying attention in class. Specifically, children's self-regulation has been found to predict their work habits (Rimm-Kaufman, Curby, Grimm, Nathanson, & Brock, 2009) and their ability to benefit from independent learning activities (Kegel, van der Kooy-Hofland, & Bus, 2009). Moreover, self-regulation (and specifically the behavioral components of self-regulation) emerges as a predictor of children's academic achievement as early as preschool (Blair &Razza, 2007; Denham et al., 2012; McClelland et al., 2007). Early behavioral self-regulation has also been found to predict academic achievement in kindergarten, and throughout elementary school (Liew, McTigue, Barrois, & Hughes, 2008; McClelland Acock, & Morrison, 2006; Valiente, Lemery-Chalfant, Swanson, &Reiser, 2008), and even high school and college completion (Vitaro et. al, 2005). Denham et al.'s research (2012) suggested that preschool students, who lack social-emotional regulatory skills, when assessed in kindergarten, were found to demonstrate less language, literacy, mathematical, and general knowledge acquisition.

VIII. Vygotskian Framework

Vygotsky (1978) proposed that the concept of language in a child serves as a tool for the development of self-regulation. Language is a mediating variable between functions of cognitive regulation (Roebers, & Schneider 2005). Vygotsky (1978) stated that private speech originates from the child's interaction with his/her social world, and thus social speech between child and parent or caregiver, serves as a guide to regulate behavior and attention (Vygotsky, 1978; Winsler et. al, 2009). Children communicate with adults and older peers and observe their actions/behaviors in order to regulate their own behaviors through the use of communication with oneself or 'private speech' (Vygotsky, 1978). Ogan (2008) describes the process of private speech as becoming internalized as inner verbal thoughts, which leads to the ability to then self-regulate cognitive processes and direct and control one's behavior. Day and Smith (2013) report that private speech does not only have associations with cognitive regulation but that it explicitly allows a young child the ability to regulate their emotions.

Developing language is used as a regulating or mediating tool for preschool children (Winsler et. al 2009). For example, a preschool child will verbally instruct oneself how to properly carry out an activity based on previous adult or older peer instruction. Receiving instructions from adults or peers contributes to the development of self-control, as this is closely related to receptive vocabulary in children (Carlson, Moses, & Claxton 2004). Perner, Lang, and Kloo (2002) also suggest that there is a strong association between receptive language and cognitive-regulation. According to Gruber and Goschke (2004) regulatory skills emerge from a dynamic interaction between the prefronto-parietal and prefronto-temporal cortical networks, which mediate attention, and the left hemispheric premotor and parietal brain region, which mediates language. These verbal instructions become inner thoughts, allowing children to direct attention and behavior through thoughts only. It is here where self-regulatory skills acquire a deeper meaning.

IX. Statement of the Problem

Research demonstrates that students who enter kindergarten without self-regulatory skills are at greater risk for difficulties such as peer rejection and low levels of academic achievement (Denham et al., 2012; Miller & Almon, 2009; Tominey & McClelland, 2011; Wanless et al., 2011). Lower levels of academic achievement are influenced by a decrease in self-regulatory abilities of preschool children today (Bodrova & Leong, 2007; Martinez-Pons, 2002; Miller &Almon (2009). Specifically, Li-Grinning (2012) states that it is more prevalent in students of a minority background to have less regulatory skills impacting their academic abilities.

The challenge arises when early childhood programs are replaced by a system whose emphasis is not on holistically teaching students in cultural responsiveness environment (Bronson, 2000; Bodrova & Leong, 2008; Li-Grinning, 2012; Tominey et al., 2011;

Winsler; 2009; Vygotsky, 1975). Thus, the following research question was use to guide this research: Do African American and Hispanic/Latino cultures, display different levels of academic achievement when the level ofself-regulation is controlled in preschools?

X. METHODS

This study took the form of a quasi-experimental design where data was collected from two preschool group settings who specifically used curricula that support self-regulation and academic skills.

XI. PARTICIPANTS

A sample of 69 students participated in this study from two schools. 42 preschool children attended a state funded Universal Pre-Kindergarten (UPK) and 27 children attended a federally funded Head Start program. The mean was age of students were 4.5 year-olds. The examiner individually assessed all participants. The ethnic composition of the final sample was approximately 56% Hispanic/Latino, 43% African American. Of the total sample, 44 of the students were male and 25 were female.

Table 1: Demographic Characteristics of the Sample

Variable	Total (n 69)	%
Gender		
Male	44	64
Female	25	36
Culture		
Hispanic/Latino	39	56
African-American	30	43
Language		
English	41	60
Spanish	24	34
French-Creole	4	6

Setting

Data was collected from two preschool settings. Both settings were similar in Social Economic Status (SES) and both curriculums allow for emotional and behavioral developments through social and academic aspects. The first setting was a state funded UPK program in a low SES, ethnically diverse district. The program offers three classes of morning and afternoon half-day sessions. The languages spoken in the district were English, Spanish, and French Creole.

The second school was a federally funded Head Start program. The Head Start is located in the same ethnically diverse community as the UPK program. This Head Start setting had a total of 5 classes. This setting was also similar in SES, culture and language proficiencies as the UPK setting. The Head Start also offered the students a morning and afternoon program as well as a full day program.

XII. INSTRUMENTATION

Standardized assessments were used to further analyze and compare the relationship between self-regulation, language skills, and culture. The outcome measurements in this study were chosen because they each provided the test in both English and Spanish. Based on Leung and Brice (2013) it is imperative that bilingual students are not tested from a monolingual approach.

XIII. SELF-REGULATION MEASURES

The Preschool Self-Regulation Assessment (PSRA) was a battery of self-regulatory tasks that were adapted from Murray and Kochanska's (2002) effortful control tasks and executive control tasks. PSRA was a one-on-one direct assessment measure that was developed to evaluate self-regulatory skills in preschool students. The tasks were developed to assess children's (a) attention and planning skills, (b) impulse control, (c) the ability to follow directions, and (d) their emotional responses. These tasks were adapted from well-validated, lab-based measures of preschoolers' self-regulation (Smith-Donald et al., 2007). The tasks offered a standardized direct assessment of young children's self regulation (Smith-Donald et. al, 2007).

Table 2: Summary of PSRA Tasks

Task	Description	Targeted self-regulation skills
Pencil Tap	Tap 1 time when I tap 2 times	Cognitive Control
Turn Task	Take turns adding blocks	Cognitive Control
Toy Wrap	Don't peek while I wrap this surprise	Impulse control
Toy Wrap Wait	Wait to open surprise	Impulse control
Snack Delay	Wait for beep to get snack	Impulse control
Tongue Task	Hold snack on tongue w/o eating	Impulse control

XIV. GET READY TO READ (GRTR).

Get Ready to Read (GRTR) was a criterion-referenced assessment that screened preschool children's development in emergent literacy skills. This test was also available in Spanish for non-English speaking students. This test specifically measured print knowledge and phonological awareness. The GRTR was developed in English and standardized with a total of 342 children. The participants were from two locations, Suffolk County, NY, and Tallahassee, FL (Whitehurst, 2001).

XV. EXPRESSIVE AND RECEPTIVE VOCABULARY ASSESSMENTS

Vocabulary assessments were administered individually to all participants. A Spanish version was administered to Spanish-speaking participants. The *Expressive* One Word Picture Vocabulary English (EOWPVT-4) (Martin & Brownell, 2011) and Expressive One Word Picture Vocabulary Spanish (Brownell, 2000) - (EOWPVT-Spanish) were norm-referenced assessments that measured the English and Spanish speaking vocabulary of preschool children. The tests consisted of illustrations that each represented an object, action or concept. The raw scores obtained were used to report standard scores and percentile ranks. The test was administered to participants in English (monolingual children) and Spanish (Spanish-speaking children).

XVI. PRE-IPT ORAL

The Pre-Idea Proficiency Test (Pre-IPT) was a nationally normed oral language proficiency assessment in English and Spanish. These tests evaluated students' oral speaking proficiency. Scoring was converted to Non-Limited, or Fluent/Competent designations (Ballad &Tighe, 2010). The students were tested individually in either English or Spanish. The Spanish test version was not a translation of the English version but rather a different test all together (Ballad &Tighe, 2010). The Pre-IPT–Oral Tests assessed proficiency in four domains of oral language: vocabulary, grammar, comprehension, and verbal expression (Ballad &Tighe, 2010).

XVII. LANGUAGE SURVEYS

The language assessments used provided an English and Spanish version of the tests. Based on two surveys students were either tested in in English or in Spanish. The first survey/form was given to all incoming preschool families in both settings. This home language survey asked for the languages students spoke at home, and ethnicity.

The second survey used was a language acquisition survey given to the teachers. Teachers identified the level of English language of the participants. This survey was modified from the Tabors and Snow (1994) framework that suggests that there are five levels of language.

XVIII. DATA COLLECTION

All participants were tested during a two-week period to assure that they were tested around the same time and reduce maturity effects. The participants were administered each test, following each test procedure and protocol. The students were tested in their dominant language. Those who spoke English were tested in English and Hispanic Students who did not speak English were tested in Spanish to better assess for content knowledge. The four participants that spoke French-Creole were also tested in English, as the assessments did not have a French-Creole version.

Results

XIX. DATA ANALYSIS AND A PRIORI CRITERIA

The current study was designed to examine the linear relationship between culture, cognitive self-regulation and academic achievement. Dependent variables for this study were academic skills. Independent variables for this study included culture and self-regulation as a covariate.

The examiner provided descriptive statistics; mean and standard deviation. Pearson *r* correlations were conducted to analyze the data collected. A preliminary analysis of data was also conducted to determine the distribution, outliers, and accuracy of the data. A paired *t*-test was conducted to examine participants' scores between IPT, GRTR, Expressive/Receptive assessments and PSRA. Correlations between aforementioned academics measures and self-regulation measures were conducted as well.

Prior to addressing the research question in this study, raw scores of each task in the PSRA were converted to *z* scores. The *z* scores were then combined into two types of self-regulation skills. The pencil tap and turn task were combined to measure cognitive control. The toy wrap, toy wrap wait, snack delay and tongue tasks were combined to measure impulse control (Smith-Donald, et al., 2007). The reason for creating *z* scores were to create one score for cognition and one for impulse as the PSRA has multiple sub tests and this method created a transparent way of analyzing the relationship between IPT, GRTR, Expressive/Receptive and both PSRA measures. Computation of a composite impulse and cognitive control variable was vital to this study as each variable not only is distinguishable, both neutrally and behaviorally, but distinct theoretically and practically as well (Denham, Warren-Khot, Bassett, Wyatt, & Perna, 2012). Denham et al., (2012) classifies the pencil tap and turn task in this study as cognitive tasks, while the snack delay, tongue task, toy wrap and toy wrap wait tasks are classified as more reflexive and

under stimulus control. In addition to previous research, the variables for impulse and cognitive control were correlated and suggest that these two variables do measure different types of self-regulation, as the correlations coefficients were less than .8. Therefore, variables classified under impulse control and variables under cognitive control were kept as two separate variables and measurements of self-regulation.

Analysis of Co-Variance (ANCOVA) was conducted to reduce within-group error variance and eliminate any confounds and to adjust or control for differences between the groups based on another, typically interval level, and variable called the covariate. The ANCOVA is an extension of ANOVA that provided a way of statistically controlling for the effects of continuous or scale variables in the study.

Research Question

Do African American and Hispanic/Latino cultures display different levels of academic achievement when the level of self-regulation is controlled in preschools?

A one-way analysis of co-variance (ANCOVA) was conducted. The independent variable, culture involved two levels: African American preschool students and Hispanic/Latino preschool students. The dependent variable, academic skills, was the level of the combined scores in oral proficiency, expressive/receptive language, and emergent literacy skills. The assumptions for ANCOVA were met. In particular, the homogeneity of the regression effect was evident for the covariate, and the covariate was linearly related to the dependent measure. The covariate measured the level of self-regulation and was significant, $F(1,66) = 11.50$, $p< .000$. The F tests the effect of Culture. This test is based on the linearly independent pair wise comparisons among the estimated marginal means and was statistically significant at $F(1,66) = 21.42$, $p< .000$ with a large effect as suggested by $np^2 = 25\%$.

The overall ANCOVA was significant, $F(1,66) = 11.50$, $p< .000$. The strength of the relationship between the independent variable and the dependent variable was very strong, as assessed by np^2 with the Culture factor accounting for 25% of the variance in the dependent measure accounting for the constant level of self-regulation (Cohen, 1988). The relationship between the covariate and the dependent variable did not differ significantly as a function of the independent variable, as the interaction effect was significant at $F(1,66) = 21.42$, $p< .000$, $np^2 = .25$. African American preschool students performed better in academics than Hispanic/Latino students as they had the largest adjusted mean ($M = 88.42$). Hispanic/Latino preschool students had the smallest adjusted mean ($M = 76.29$). Follow up tests were conducted to evaluate pair wise differences among these adjusted means. Based on the LSD procedure, the adjusted mean for African American and Hispanic/Latino students differ significantly

Table 3: Descriptive Statistics for Language Acquisition Skills as the Dependent Variable and Culture

| | 95% Confidence Interval | | | |
	Minimum	Maximum	Mean	SD
African American	85.16	91.68	89.48	9.13
Hispanic/Latino	75.44	81.15	77.48	11.29

Covariates are evaluated at the following values: Cognitive Regulation = -.0122.

Table 4: Analysis of Co-Variance for Cognitive Regulation by Culture Type

Source	SS	df	MS	F	p
Cognitive Regulation	2049.47	1	2049.47	25.97	.000
Culture	1690.32	1	1690.32	21.42	.000
Error	5207.62	66	78.90		
Total	9696.49	68			

XX. DISCUSSION

Current educational policies, such as CCSS and Race to the Top, do not allow for focus on cognitive control skills in preschools, which serve as indicators of school success (Arslan et al., 2011; Denham et al., 2012). Race to the Top is a competitive grant that required more rigorous learning standards to be implemented and greater accountability on multiple levels. These common core standards primarily focus on constructional and academic types of activities in classrooms. Additionally, the element that grants, under this policy are based on competition and not the need thus raising concerns for the development of preschool students. The results of statistically significant relationship in this investigation between academics, self-regulation and culture provide evidence for educators to question current curricula. The primary focus of this study determined using a One-Way ANCOVA statistical method, indicated a significant difference in the academic development of

preschool studentsand their cultural background when controlling for level of self-regulation. This primary finding was supported by the results of the ANCOVA. The statistical analysis suggests that African American preschool students perform better academically than Hispanic/Latino students.

One possibility for the results could be attributed to factors in each culture and how they have a direct influence of the social and academic development of these students. While there are many similarities between the African American and Hispanic/Latino subcultures, the differences that they each face can be a major revelation as to why African American preschoolers outperformed Hispanic/Latino students in this study after controlling for the ability to cognitively self-regulate. One main difference is that African American families do not have to be concerned with immigratory status in the U.S. Thus this growing concern is passed down to many students as they see their parents worry about this aspect, in turn negatively affecting their levels of safety and stability which is reflected in the school setting.

Another possible explanation for the significance in this study can be related to language barriers in the adults that lead to having students serve as interpreters very early on. This responsibility that young students take on as part of their role, impacts the ability for a child to develop freely and overall differently than those students not required to mature at a faster rate. While maturity is often seen as a positive component in development when it is done at age levels that a child needs to dramatically play and focus on other major skills such as socialization and self-regulation, this level of maturity deters young learners from developing their self-efficacy, self-regulation skills thus affecting academic skills.

Athird possibility is that due to the history in the African American culture educators have learned to incorporate it into their classrooms more efficiently than other growing subcultures. While we use the term multiculturalism in America today and try to incorporate it in the classroom, the question of are teachers truly prepared to be multicultural educators in this fast growing society is raised. Are higher educational programs truly preparing future educators to become sensitive to different cultures and truly embrace and have their lessons reflect the cultures of the students in their classrooms? Or are we preparing teachers to simply learn and celebrate African American culture and Hispanic/Latino cultures on certain days of the school calendar?

Perhaps the emphasis of closing the gap is not as simple as acknowledging for diversity but preparing educators to become culturally responsive in finding relevant connections between students and subject matter. According to the U.S census in 2011 50.4% of U.S. birth were made up of minority children, thus teaching and learning in a culturally responsiveness and self-assessment environment must be implemented so that specific subcultures do not fall behind. It becomes crucial for these students to be successful to have an educator that can then create a stigma free, emotionally safe, supportive, open communication, prompts acceptance, and has high expectation for all students becomes important for many minorities in schools today. The learning environment must be representative of the students in the class in order for all students to succeed.

Educators need to support the development of self-regulation in minorities especially in Hispanic/Latino preschoolers so that they make deliberate efforts to bring these functions into consciousness. It is key that we imbed and prepare children to become aware of the external standards set forth in a classroom and teach them that their performance impacts their own learning acquisition directly. We need to train our educators not only to see the importance of teaching academic content but teaching the content in a multicultural sensitive manner and become sensitive and able to attend to each culture's need.

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Compressed School week Cultural bias against English Second Language Student Performance on Standardized Exams

By Kenneth David Strang & Marie Shimer

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Abstract- Financial constraints have driven K-12 schools in the isolated mountain regions of USA to reduce costs by shortening the teaching week. These regions have a high relative population of Hispanic Mexican immigrants who are English Language Learners (ELL). Hispanic immigrants come to USA to work but generally at low wages so it is a financial strain to pay childcare during the week to avoid losing a day of work. At the same time teachers are under pressure from the No Child Left Behind national initiative to ensure all students pass standardized tests. There is some evidence that shorter school weeks does not negatively impact student learning. However, we argue that a shorter school week negatively impacts ELL student performance on standardized exams, and if this were true it would be unfair to immigrants so the practice should be changed. We empirically tested the effectiveness of various school week formats using a large sample of rural schools in Oregon with a high concentration of ELL students from Hispanic Mexican cultures (N=628).

Keywords: hispanic mexican culture bias; english language learner (ell); compressed school week; rural schools; standardized exam; no child left behind.

GJHSS-G Classification: FOR Code: 200303

COMPRESSEDSCHOOLWEEKCULTURALBIASAGAINSTENGLISHSECONDLANGUAGESTUDENTPERFORMANCEONSTANDARDIZEDEXAMS

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Compressed School week Cultural bias against English Second Language Student Performance on Standardized Exams

Kenneth David Strang [α] & Marie Shimer [σ]

Abstract- Financial constraints have driven K-12 schools in the isolated mountain regions of USA to reduce costs by shortening the teaching week. These regions have a high relative population of Hispanic Mexican immigrants who are English Language Learners (ELL). Hispanic immigrants come to USA to work but generally at low wages so it is a financial strain to pay childcare during the week to avoid losing a day of work. At the same time teachers are under pressure from the No Child Left Behind national initiative to ensure all students pass standardized tests. There is some evidence that shorter school weeks does not negatively impact student learning. However, we argue that a shorter school week negatively impacts ELL student performance on standardized exams, and if this were true it would be unfair to immigrants so the practice should be changed. We empirically tested the effectiveness of various school week formats using a large sample of rural schools in Oregon with a high concentration of ELL students from Hispanic Mexican cultures (N=628).

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I. Introduction

A common trend in education around the world is to pay less attention to knowledge building in lieu of more emphasis on marketing goals (Song & McCarthy, 2016) and cost reduction (Herring, 2010; Marcotte & Hemelt, 2008). In the USA, this has resulted in pressuring teachers to increase enrolment and to ensure that children pass standardized exams that are required as part of the No Child Left Behind initiative. A secondary trend in the USA has been to compress the school week from five to four days in order to conserve costs. Several researchers found that Hispanic students did not perform well in a compressed school week (Graves, 2011; Herring, 2010) while other studies were inclusive about the learning impact of a shorter week with longer days (Hewitt & Denny, 2011). At least one researcher reported racism and learning problems that negatively impacted learning within Hispanic and minority students especially in the dominantly-white culture mountain regions of USA (Rudge, 2017).

An important issue driving this study was that school administers and community stakeholders were questioning whether alternative school week formats (such as four versus five days) were effective (Supovitz,

2009). Only 68% of all 11th grade students passed or exceeded the Oregon Assessment of Knowledge and Skills (OAKS) standardized exam (Oregon, 2016).There was very little empirical research about the effectiveness of a compressed school week schedule(Bell, 2011). More so, "research gauging the impact of a four-day school week on student learning is scant" (Herring, 2010,p. 26).In fact, Hewitt and Denny (2011)called for "further examination" of non-traditional school week effectiveness in terms of student performance on exams (p. 29).

Qualitative feedback of utilizing a compressed school week at participating schools in other American states were mixed, ranging from ineffective to effective (Graves, 2011; Herring, 2010; Hewitt & Denny, 2011).Interestingly, arecent public opinion debate hosted by Juggle LLC of Swansea IL USA revealed that 68% of the poll participants were in favour of a four-day school week (Debate.org, 2017).The rationale for the votes was polarized - there were 185 constructive comments at the time of writing.

An administrator argued: "The pros outweigh the cons! Our school would save 382,000 switching to a 4 day school week and you can do other sports on the free day. Tests show 4day school week benefits include less disciplinary action was taken and less absents and better grades. Plus more family time and you can schedule dentist appointments and vacations on the free day instead of taking a day off"(Debate.org, 2017,p. 14). A student also posted a positive reflection: "5 days is too much I'm 19 years old and doing my 2nd year of grade 12. It's just too tiring" (Debate.org, 2017,p. 82).

A contrasting public opinion from a student was: "Most people have to work so what about the families than can't afford to take every Friday (or any for that matter) and now have to find somewhere for their kids to go and pay for day care and such and such"(Debate.org, 2017,p. 178). A teacher added another negative: "No, the USA needs a longer school year. Other countries have recently out done the United States by putting us behind as the number thirteen county based on standardized tests. Therefore, if we plan to actually regain our place as a greatly educated nation, we need to offer better education. The way to do

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that is not to shorten school weeks" (Debate.org, 2017,p. 122).

An important socio-economic issue impacting school administrative decisions is that the ELL students have different needs (Aguirre-Muaoz & Amabisca, 2010; Barr & Clark, 2012; O'Day, 2009; York-Barr, Ghere & Sommerness, 2007; Rudge, 2017). ELL students are estimated to be 5.5 million of the USA school population and this is expected to double by 2025, to the extent that ELL students will comprise 25% of the public school population (Shim, 2013). In Oregon the Hispanic population has increased 163% since 1997 (Oregon, 2016). Testing the learning of Hispanic students is important because 76% of that segment are ELL but unfortunately only 21% of the population pass the OAKS proficiency level set by NCLB (Oregon, 2016). One researcher found that ELL students do not adapt well to a non-traditional school week configuration (Cannon, Jacknowitz & Painter, 2011). Other researchers have reported mixed results in terms of ELL student performance during traditional school week schedules (Datnow, 2011; Graves, 2011; Shim, 2013).

The purpose of this study was to examine if Hispanic Mexican ELL student performance was decreasing in the four-day week configuration. To investigate this, a two-year study was designed to compare ELL student performance on standardized exams while utilizing different school week configurations at selected rural secondary schools in Oregon (N=628). An individual level of analysis was taken (evaluating individual ELL student scores) because the researchers felt prior compressed week research in other states at the school level was less precise for detecting performance differences. In keeping with a post-positivist ideology the researchers collected quantitative data from the Oregon Department of Education and applied parametric as well as nonparametric statistical techniques to test hypotheses associated with a between-groups design.

II. Literature Review

a) Standardized exam impact on ELL students

The push for using standardized exams in schools was propelled by the No Child Left Behind Act (NCLB) of 2001 in USA. The NCLB legislation was designed to increase state-level accountability for the results of student performance on national assessments, to provide parents with more school choices, as well as to provide stability for students by increasing local control for states government, school districts, and school administrators(Ellis, 2007).

The movement to standards-based curriculum along with high-stakes testing of student knowledge referenced to the curriculum fall in the realm of essentialism theory. Essentialists believe in the existence of certain basic skills that each citizen requires in addition to what schools must teach (Gutek, 1997). The measurement of accountability for teaching and learning of basic skills reflects an essentialist philosophy (Gutek, 1997). In fact NCLB requires states to delineate a rigorous, standardized curriculum with exams for each grade level, while the exam results must be reported to the public and United States Department of Education (USDOE) every year (USDOE, 2010).

High stakes tests refer to exams that carry serious consequences for students, their parents and educators, such as anxiety, stress, lack of retention (students may drop out of school if they fail), reduction in district funding or there may impacts on teachers in their performance evaluations (Loeser, 2008). Since the OAKS exam has been established as the mandatory measure of learning achievement to meet the NCLB mandate, this places great pressure on all stakeholders; thus, the OAKS exam is considered high stakes. This partially substantiates the significance for conducting this research.

The OAKS standardized exam is a criterion-referenced test written by a consortium of state educators in Oregon and it has been established as the accountability measure for students in Oregon to measure progress toward meeting requirements of NCLB (Oregon, 2012). A criterion-referenced test is a standardized instrument developed to provide another means to measure student achievement as defined by a standard or objective instead of comparing students to one another using a raw score (Loeser, 2008).

The OAKS exam was longitudinally retested with large samples of students in Oregon to achieve a high degree of reliability (Oregon, 2012).At the time of writing the pass level benchmark is 236to indicate mastery of the math body of knowledge taught in high school grades 9-12 (Oregon, 2012). However, the longitudinal pass level for the Oregon student population established through the validation processes was 237, with a standard deviation of 2.7333 (Oregon, 2012).

The greatest challenge schools currently face is the accountability to meet high standards of student achievement within the general and at-risk populations, such as ELL students (Supovitz, 2009). Of critical importance for school districts across the nation is the ability to achieve and maintain high levels of success for the ELL population, one of the sub-categories that NCLB addresses. ELL refers to students who have been identified as speaking a language other than English as their primary language (Oregon, 2016). In the state of Oregon, ELL students are predominately Hispanic Spanish-speaking. According to longitudinal evidence that dates back to the 1997-1998 school year, Oregon has seen an increase of 163.32% in its Hispanic student population. Currently, 13.63% of Oregon public school students are of Hispanic origin, and 76.47% of those students are ELL status (Oregon, 2016).

As the deadline for 100% student proficiency on benchmark tests grows closer, school districts and government agencies are looking for additional ways to improve student performance on high-stakes tests. At the time of writing, only 68% of the entire population of Oregon students passed or exceeded the OAKS exam (Oregon, 2012). The ELL population lags even further far behind with only 21% of the population meeting the OAKS benchmark math test (Oregon, 2012). Therefore a hypothesis was developed to confirm that sampled ELL students were not meeting the OAKS benchmark:

- The mean OAKS score the ELL student sample will be less than the population mean of 237 (SD=3.733).

b) *School week length impact on ELL student performance*

Educational leaders are concerned with how their schools can continue to meet the criteria for Adequate Yearly Progress (AYP) established under the NCLB national initiative, and in particular to help the ELL student population succeed (Yell et al., 2006). To continue meeting the mandates of NCLB and to accommodate new graduation requirements, schools are turning to specialized instruction programs and alternative scheduling. The latter (scheduling) is an important factor investigated in this study.

Several variations of how high schools structure the time spent in school include the following: traditional five-day weeks, daily bell schedules, and increasingly four-day school weeks (Beesley & Anderson, 2007). A traditional school week schedule consists of a standard five day week with six to eight periods per day in which class length is less than one hour (Zelkowski, 2010). The traditional class schedule is broken into eight class periods each typically lasting 45 to 55 minutes; while the seven-period class schedule consists of sessions that last 50 to 56 minutes (Zelkowski, 2010).

In contrast, the four-day school week typically consists of classes scheduled Monday through Thursday. School days and the school year are typically lengthened to make up for the missed instructional time from Fridays (Beesley & Anderson, 2007).Historically, the four-day school week was implemented to help cut costs in staff and transportation. The shorter school week also gives students opportunities to receive remedial help, catch up on homework, and participate in extracurricular activities (Darling-Hammond, 2000).

The four-day work week is not a new concept. Business organizations and government agencies have implemented alternative work week schedules to attract higher quality workers, reduce employee absenteeism and turnover, and improve productivity (Zelkowski, 2010). The four-day work week increases flexibility in production schedules, reduces monotony of certain jobs, increases time with family, and increases worker morale (Beesley & Anderson, 2007).

The most important argument in favour of implementing a four-day week with longer days is that academic learning time is correlated with achievement, in that the longer students are in the classroom, the more they will learn (Zapeda & Mayers, 2006). It is also possible through that the accountability for higher achievement test scores is placing demand on school administrators to switch to the four-day week in order to simply lengthen the amount of educational contact time with students (Beesley & Anderson, 2007). The relationship between time and achievement, however, is not as simple as it seems. Instead, time spent in school during the week may affect the achievement of students on standardized math tests (Zelkowski, 2010). Additionally, the amount of time students spend daily in each class can have a significant impact on student performance (Beesley & Anderson, 2007).

High schools across the state of Oregon have demonstrated a small but steady increase of 16% over the course of the last four school years in their OAKS math scores. However, math scores for ELL continue to lag behind those of their peers, growing only 5% in the same time frame (Oregon, 2012).The general problem is that as of 2008, only 50% of ELL in the United States scored at the proficient level on high stakes math tests (Oregon, 2016). As reported on the 2010-2011 Oregon state-wide report card, only 21% of ELL students tested at the proficient level in Oregon (Oregon, 2012). Specifically, the concern regarding low scores for ELL students across the state of Oregon has resulted in state-wide initiatives of targeted interventions that focus on improving the test scores of ELL students (Oregon, 2012). The most popular and heralded initiative has been the modification to the number of days in the school week and the number of class periods in the school day.

Yarbrough and Gilman (2006) concluded from their empirical study that the standardized achievement scores of students in schools operating on a four-day schedule was the same as or slightly better than those operating on a five-day schedule. Reeves (1999)found that some schools showed slight gains in student achievement when using the four-day week. Beesley and Anderson (2007)concluded from empirical analysis that the four-day schedule did not impact student achievement one way or the other. There was no research concerning the impact of the number of periods per day about ELL student performance on standardized exams, although the studies cited above suggested longer days (more periods per day) would improve student achievement. Thus, the gap in the literature is there was limited research about the effectiveness of these modified program schedules with regard to ELL student achievement on the standardized exams (Bell, 2011; Darling-Hammond, 2000; Zapeda & Mayers, 2006; Zelkowski, 2010). Thus, in consideration

of the literature review and practitioner experience, these hypotheses were proposed:

- The mean OAKS score will be significantly lower in four-day week cohorts versus the traditional five-day school week configuration for ELL students at rural Oregon schools;
- The mean OAKS score will be significantly higher in eight-period five-day cohorts versus the seven-period four-day format for ELL students at rural Oregon schools.

c) Socio-demographic factors impacting standardized exam scores

A number of researchers have identified several common factors which impact student performance on standardized exam scores, with the most significant being: socio-economic status (poverty) and teacher quality (Barr & Clark, 2012; Bell, 2011; Ellis, 2007; Oregon, 2012; Rudge, 2017; Yell et al., 2006). Socio-demographic factors such as race, language or age may not be a factor impacting this research since the entire sample will be Hispanic ELL students of similar ages in high school (Ellis, 2007; Oregon, 2012). Gender could certainly impact performance on standardized exams as found by Strang (2014) in his research, but this factor was beyond the scope of the current study.

In education there is a lot of pressure on teachers world-wide to perform, as well as to recruit and retain students. "For students this is evident in the imperatives to study for market positioning and not for knowledge per say." (Song & Mc Carthy, p. 83). In other words, students are focused on obtaining good grades to qualify for higher education or employment and teachers are playing into the neoliberalism philosophy where high enrolment and high pass rates are more important than actual learning.

The quality of teacher has been argued to impact student performance regardless of ELL status (Barr & Clark, 2012; Darling-Hammond, 2000; Schroeder, Scott, Tolson, Huang & Lee, 2007; Zapeda & Mayers, 2006). Teachers are expected to use time efficiently and make good use of research based instructional methods. This assumption is enforced through the evaluation process and therefore it could be asserted that teacher may not impact ELL student performance (Oregon, 2012).

Another important control is that teachers responsible for working with ELL students in math classes fall under the classification of being 'highly qualified' as defined by NCLB (2004). In addition to the requirements of NCLB, each state is allowed to set their criteria for highly qualified status. Oregon requires that teachers instructing math classes be certified by having at least a bachelor's degree as well as passing a proficiency test for the content area (Oregon, 2012). Currently, 97% of Oregon's teachers meet the requirements of being highly qualified (Oregon, 2012).

This requirement helps to ensure that students, regardless of their economic, social, or ethnic backgrounds, are receiving quality education from teachers trained in the appropriate subject matter.

The sample selection methodology should concentrate on schools where the teacher is certified for math which would eliminate having to statistically control for differences in the teacher (despite the fact that obviously there will be some individual differences in personality and pedagogy). Nonetheless it is logical to test this assumption which can be done by examining any differences between cohorts at schools since one teacher is responsible for a class at a rural Oregon school. The following hypothesis was created as a control to ensure the teacher is not impacting ELL student performance on OAKS: The mean OAKS score will not be significantly related to teacher of the school class cohort.

Culture may be the key factor explaining why ELL students performed better in the five-day 8 periods per day school week format. According to the generally accepted global culture models, there are five basic polar dimensions used to describe a national level socio-cultural profile (Strang, 2012b):

PDi: Power acceptance (versus democratic/consultative) is the level of social acquiescence for the unequal distribution of power; meaning the extent subordinates accept unequal power is socially determined such as by a class system (India), by government, or by military (communism).

- UAi: Uncertainty avoidance refers to the extent to which people usually feel threatened by ambiguous situations; which means not taking risks, or in a business context formal rules and procedures are usually designed to provide more security and more career stability.
- ICi: Individualism instead of collectivism, whereby the former refers to the tendency of people to be capitalistic, look after their selves and be unique; collectivism refers to a clan culture meaning to work together seeking group rewards and loyally caring for/respecting elderly family members.
- MFi: Masculinity (as opposed to femininity) refers to values such as assertiveness, materialism, and lack of concern for others; while femininity emphasizes caring, concern for others, nurturing longtime relationships with others, and experiencing a high quality of life.
- LTi: Time orientation (long-term versus short-term), whereby in many parts of the world (particularly Asia, South America and African countries), people are long-term, eternal, destiny-oriented, based on religious beliefs; whereby in short-term oriented North American and European societies time must be scheduled and controlled to achieve timely

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results and to avoid waste (adapted from Strang, 2012, p. 5).

In particular, the individualism-collectivism and uncertainty-avoidance dimensions have been identified in some studies as significant factors impacting international student success in quantitative courses as well as in team-based university projects. Strang (2008) found that international students at an Australian university with high collectivism indexes (low ICi factor scores since the dimension measures individualism so the opposite low score is collectivism) and high uncertainty avoidance (high UAi) had lower grades in quantitative courses, mainly due to their desire to work together (and sometimes copy), as well as to avoid trying new things (high uncertainty avoidance means low risk taking).

In another study Strang (2010) found that Asian students from China, South Korea and India with high collectivism cultural dimension indexes performed better in team projects as compared to American and Australian students with high individualism profiles. Furthermore, Strang (2012) found similar cultural behavior within international students from Europe and Asia – participants with high individualism (low ICi meaning collectivist nature) and low uncertainty avoidance (low UAi) were more successful in completing their Doctor of Business Administration dissertations, which he attributed to their being willing to try new approaches (low UAi) and be self-managed (self focused, achievement-driven, high ICi). This potential for a difference on standardized exam score due to socio-cutural difference between ELL and non-ELL students is the unit of analysis in this study. This factor gives rise to another hypothesis: The ELL student performance will be lower than the non-ELL students.

d) Literature review synthesis and hypotheses

Based on the literature review, there were conflicting findings regarding the academic performance of ELL students in both traditional as well as non-traditional four-day school weeks at high schools. The researchers propose that ELL students will score lower on the OAKS standardized exam at schools that have been using a four-day. Additionally, common demographic characteristics such as socio-economic status, age and teacher quality were ruled out as likely factors impacting OAKS exam scores since the sample was Hispanic ELL, and gender was beyond the scope of the current study. Nonetheless, teacher quality needed to be established as a control, and it made sense to reorder the hypotheses as per below, since it would not make any sense to continue testing if teacher were highly correlated with score:

- H1: The mean OAKS score will not be significantly related to teacher (of the school class cohort);
- H2: The mean OAKS score for ELL students will be less than the population mean of 237 (SD=3.733);

- H3: The mean OAKS score will be significantly lower in four-day week formats versus the traditional five-day school week configuration for ELL students at rural Oregon schools;
- H4: The mean OAKS score will be significantly higher in eight-period five-day cohorts versus the seven-period four-day format for ELL students at rural Oregon schools.

III. Methods

The researcher shela a post-positivist ideology concentrated on cause-effect hypothesis testing that was driven by both an empirical literature review and from practitioner experience. The unit of analysis was school week length impact on standardized exam score. The level of analysis was group (students in a four or five day week class). The dependent variable was ELL student standardized exam score. Quantitative-oriented techniques were selected to test the hypotheses because metric performance data were collected for the dependent variable.

The general class of design was ex-post-facto non-experimental between-groups comparison with randomly selected intact groups. The key independent factor was the school representing a group of students which corresponded to a traditional or compressed school week. There were two formats of traditional and compressed week configurations in the schools, which resulted in four levels of the group factor. The ex-post-facto design strategically eliminated any influence of the researchers on the dependent variable which is a common limitation in empirical studies.

Descriptive statistics, correlation (preliminary analysis only), ANOVA and regression were applied at the 95% confidence level. SPSS version 22.0 was used for the statistical tests. Both parametric and nonparametric statistical tests were utilized, the latter as a contingency against violations of the assumptions for the chosen techniques.

ANOVA is appropriate for testing the difference in the variance of means for continuous independent variables across groups of nominal or ordinal factors; ANOVA is also appropriate for detecting predictor interactions by coding linear and quadratic factor interaction terms as parameters. Additional parametric post-hoc techniques can be applied if the hypotheses are supported (Keppel & Wickens, 2004).

IV. Participants

In terms of sampling method, stratified simple random was used to selectintact groups of 29 existing rural secondary schools in the state of Oregon, so as to achieve roughly equivalent subgroup sizes, according the four levels of the main independent factor (week length and periods per day). The selection was determined by categorizing the schools by rural district

in Oregon, identifying only those utilizing either a four or five day week (not both), and then seven or eight periods per day, while also filtering in data for schools that contained at least 30 ELL students.

The minimum required sample size of 255 was determined by setting the minimum effect size of 0.21 which is based on the literature cited earlier in that only 21% of the population meet the OAKS proficiency level set by NCLB (Oregon, 2016). We set the confidence level at 95%, the power at 0.80 and a 5% margin of error. Cohen's (2003) proportion formula was utilized, using 21% as the expected ELL students to pass: N $=.21(.79)(1.96/.05)^2 = 254.9$; which the actual sample size surpassed.

The Oregon public data was downloaded to preselect high schools (grades 9-12) that were rural and contained predominately ELL students. School superintendents were contacted using a collaboration agreement (informed consent was not required as the researchers accessed public school district data). The superintendents were asked if they considered their school rural and normal in terms of standardized exam performance. The latter was a criterion in the stratified selection methodology (to filter out small subgroups and low performing rural schools which may be attributed to the difficulty in attracting qualified teachers).Only classes with ELL students were targeted. Another criterion in the selection process was to ensure the school reported sufficient data for analysis, such as length of week, periods per day, along with basic demographic characteristics of the students. Additionally, the sampling criteria included that the teacher of the ELL classes was certified for math.

The researchers collected the standardized exam scores and demographic characteristics for secondary school ELL students from two 2011-2013 academic years, for the selected sample. This selection was made because the focus was on high schools for generalizing to Oregon high school ELL student populations. Repeated students were removed from the sample. This resulted in an approximately equal number of traditional versus compressed week formats in the sample as well as being balanced between the two academic years (N=628).

V. Procedures

All demographic data was coded as nominal or ordinal to ensure the sampling methodology was performed correctly (e.g., ELL students, rural school, teacher certified for math, four and five day week, seven and eight periods per day). Grade level was entered as an ordinal (9-12).

School was coded as a nominal factor in order to control for teacher quality (in Oregon rural schools, one teacher was assigned to a class, and there were never more than two classes per grade level). A

nonparametric correlation test was planned to test the hypothesis that teacher was not significantly related to the ELL OAKS exam score. 'Group' was the more important independent factor of interest in this study because this identified the length of periods in the day. Group was coded as a nominal factor, according to one of four levels: compressed week with 7 or 8 daily periods and likewise for the traditional five-day week with 7 or 8 periods per day. A nonparametric correlation test was planned to ensure that this factor was significantly related to the OAKS standardized exam score prior to ANOVA comparisons.

OAKS standardized exam score was the dependent variable. This was a continuous ratio data type representing the raw score from each student. As explained earlier, OAKS is a standardized exam which has been validated by the State of Oregon and has been found to be reliable in an academic subject matter expert panel using a test/re-test methodology (Oregon, 2012). The national average of the OAKS exam scores also confirms the reliability of the instrument (237, SD=3.7333). Normality tests were conducted on the dependent variable to confirm the exam scores in the sample met the assumptions of the parametric statistical tests.At the time of writing, only 68% of all students passed or exceeded the OAKS exam during the 2011-2013 school years (Oregon, 2012).

VI. Results and Discussion

a) Preliminary data analysis, validity and reliability

First the data was checked for missing items, outliers and normality assumptions on the dependent variable. There were no missing data but only three grade 12 exam marks were available. Retaining these three records would have proposed a problem for certain statistical tests that require cell sizes to be at least five, such as generalized linear models and post-hoc tests. Therefore these three records had been dropped from the sample (N=628) which now meant data for grades 9-11 were included.

Normality tests were conducted on the standardized exam score since it was the dependant variable and parametric tests were planned. Ahistogramanalysis was done with each of the compressed school week configurations in the sample: four-day, 7-8 periods and five-day, 7-8 periods. A Kolmogorov-Smirnov test of the sample indicated it did not approximate a normal distribution (M=230.786, SD=6.64, p<.000) but all four groups were similar in shape. The researchers continued with the analysis since the planned ANOVA statistical technique was robust to this minor violation of distribution normalcy.

Descriptive statistics of the standardized exam score are shown in table 1 broken down by group (school week length) and grade. The groups were: 1 (4-day 7 periods), 2 (4-day 8 periods), 3 (5 day-7 periods,

and 4 (5-day 8 periods).The kurtosis and skewness estimates were calculated to determine if each sub group did not deviate too far from normal distribution expectations. The kurtosis should be less than or equal to ±3 and skew should be at or below ±1 (Tamhane& Dunlop, 2000, p. 118). Nevertheless, a skewed distribution1 point beyond these benchmarks is commonly accepted in educational settings when the dependent variable is a standardized exam score. Additionally, the hypotheses in this study anticipate a lower standardized exam score for certain groups in the sample, so the data is expected to be skewed.

Teachers generally prefer a negatively-skewed distribution (median > mean with a more prominent left tail), instead of a positive skewed distribution even when the means are identical between two sample distributions, because more of the data frequency values are in the higher x-axis part of the scaleof a negatively skewed sample. Although a zero skewis statistically desired (symmetrical distribution) in education a positive or negative skewed distribution is typically accepted for exam scores because this would indicate more students were scoring a high grade scale. Since kurtosis is a quadratic transformation of skew, deviations from this statistical benchmark may also be tolerated. Therefore the skew and kurtosis estimates were found acceptable in this sample for the purposes of this study.

Internal validity refers to the risk of alternative reasoning for the observed results (Neuman, 2000). The three common threats to internal validity for quantitative studies are: sample selection bias, maturation, and statistical regression. Sample selection bias was reduced by randomly selecting rural schools, through a stratification methodology (categorizing the schools by rural district in Oregon, identifying only those utilizing either a four or five day week, and also by focusing on schools that contained at least 30 ELL students). Maturation was not a threat since the participant exam scores were examined ex-post-facto using archival data. Statistical validity is discussed next.

Since the dependent variable was collected from historical data over a time distribution, and all participants were Spanish-speaking ELL students, the majority of the threats to internal validity are null, largely because the study is based upon historical, publicly filed data using the *a priori* OAKS instrument. The participants were considered normal because as noted earlier the ELL demographic characteristics were similar among all students. Nevertheless, since there was a two year period involved, the learning curve effect could have impacted teachers (later year students could have scored higher because everyone would have learned how to work any loop holes in the OAKS math test). A Spearman correlation test indicated that there was a small but significant positive correlation between year and OAKS exam score (Rho=0.095, p<0.05).

Homoscedasticity (variance homogeneity) of the dependent variable OAKS exam score means the variance will be the same in terms of a distribution from one level of the independent factor to another. This was confirmed from the kurtosis coefficients whereby the kurtosis coefficients of the math score did not vary from group to group. For example, no single group had a flatter, steeper distribution as compared to the others. Independence was achieved in that the records were not linked other than students being in the same class.

Multicollinearity of independent factors means that there should be no variance shared between factors. Since the first hypothesis will test the relationship between teacher (via school) and exam score, this leaves only the group factor remaining. Thus, multicollinearity was not a threat in this study.

External validity means that the finding could be generalized to the greater population of ELL students in Oregon and other states. External validity concerns are beyond the scope of the current study although it is anticipated the results would generalize to rural schools in other states.

Reliability means that the results could be obtained if the study were repeated. Given that archival data were used, reliability should be very high.

VII. Hypothesis Test Results

Spearman correlation was used to test the first hypothesis (H1) that the mean OAKS score will not be significantly related to teacher (of the school class cohort). The result was that there was no relationship between teacher and OAKS exam score (Rho=0.03, p>.05) as judged by comparing school and score. This test result also established that there were no relationships between other contextual factors within the school environment which significantly impacted the OAKS exam score.

The second hypothesis (H2: mean OAKS score for ELL students will be less than the population mean of 237, SD=3.733) was tested using a one-sample T-test against the population mean. As hypothesized the ELL students scored significantly lower (M=230.779, SD=6.66) than the OAKS pass mark; T-test(637)=-23.07, p=.000, having a score 6.2213 lower with control intervals (-6.743,-5.699).

The third hypothesis (H3: the mean OAKS score will be significantly lower in four-day week formats versus the traditional five-day school week configuration for ELL students at rural Oregon schools) was tested using a two-way ANOVA with a multilevel independent factor (group, representing the 5 or 4 day format). There was no statistically significant difference in variance of OAKS exam score between the four-day versus five-day school week configurations in the sample, $F_{(1,627)}$=-1.925 , p=.166 which did supported the hypothesis. The ETA measure of association between school week

format and OAKS exam score was 0.55 with an effect size of 0.003 which is very slight and insignificant. The OAKS exam score mean for the five-day week was 231.169 (SD=6.1024) while the four-day mean was 230.431 (SD=7.1127). Interestingly, the OAKS score was slightly higher for the traditional five-day week, although insignificant, which was similar to the findings of Beesley and Anderson (2007).

The fourth hypothesis (H4: mean OAKS score will be significantly higher in eight-period five-day cohorts versus the seven-period four-day format for ELL students at rural Oregon schools) was tested using a multilevel two-way ANOVA. Interestingly, there was a statistically significant difference of variance in ELL student OAKS exam score across the school week/periods per day combinations. The overall Levine test was significant, F-test (3,624)=11.745, p=.000 (N=628). The ANOVA results indicated a difference between groups, with an F-test (3,624)=3.113, p=.026 (significant at 5%).Group 4 (five-day week, 8 periods per day) had the highest OAKS mean. The results are summarized in Table 1.

Table 1: Descriptive statistics from OAKS exam score by periods per week-day groups

Group	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Lower Bound	Upper Bound	Minimum	Maximum
1	161	229.851	7.7478	.6106	228.645	231.057	208.0	245.0
2	171	230.977	6.4333	.4920	230.005	231.948	211.0	245.0
3	151	230.325	6.9786	.5679	229.202	231.447	211.0	242.0
4	145	232.048	4.9023	.4071	231.244	232.853	216.0	240.0
Total	628	230.779	6.6606	.2658	230.257	231.301	208.0	245.0

Table 2: Post-hoc Tukey HSD comparisons of OAKS exam

Group	N	Subset for alpha = 0.05	
		1	2
1	161	229.851	
3	151	230.325	
2	171	230.977	
4	145		232.048
Sig.		.437	.049

(Tukey HSD[a,b])

Means for groups in homogeneous subsets are displayed.
a. Uses Harmonic Mean Sample Size = 156.383.
b. The group sizes are unequal. The harmonic mean of the

A post-hoc analysis was conducted to identify which of the group means was significantly different. Tukey HSD was applied, which indicated that ELL students in group 4 (five-day week with 8 periods per day) had the higher OAKS standardized exam score, at 232.08 (p=0.049). The results are summarized in Table 2. An observation from these results was that even the highest group of ELL student OAKS exam score means were lower than the benchmark of 237 established by Oregon. ELL students scored higher on the OAKS standardized exam when the school week had 8 periods per day, with the highest score being in the five-day week format.

VIII. Conclusions

The purpose of this study was to investigate ifdifferent school week configurations at selected rural secondary schools in Oregon has a statistically significant impact on ELL student OAKS standardized exam score (N=628). The individual level of analysis was applied using individual ELL student scoresacross an approximately equally balanced sample of school classes using different school week configurations.

The literature had indicated four-day week formats may not impact standardized exam scores, although some researchers found negligible differences or none. In one case the standardized exam scores decreased when the four-day week format was used as compared to the traditional five-day configuration. However, since there was very little empirical research comparing four versus five-day week impacts on exam scores, and no research involving ELL students in Oregon or variations of the periods per day, the researchers focused on these factors in the current study.

Furthermore, prior literature had indicated that demographic factors such as culture and age could impact standardized exam score, along with quality of

the teacher. These factors were controlled or ruled out in this study. Culture did not vary as all students in the sample were Hispanic. Teacher differences were controlled through the sample selection method that requires teachers to be certified in math and the relationship between teacher to OAKS exam score was found to be insignificant through a nonparametric Spearman correlation test (Rho=0.03, p>.05).

Unfortunately (for schools and ELL students), the mean OAKS score for ELL students was found to be significantly less than the population mean of 237, based on a one-sample T-test(637)=-23.07, p=.000, with a mean score of 230.779 (SD=6.6606) that was 6.2213 points lower than the pass benchmark.

Although the researchers hypothesized that the mean OAKS score will be significantly lower in four-day week formats versus the traditional five-day school week configuration for ELL students at rural Oregon schools), there was no significant difference in scores, based on a two-way ANOVA F-test(1,627)=-1.925, p=.166 which did support this hypothesis. Ironically, the ELL student OAKS standardized exam score was slightly higher for the traditional five-day week, although insignificant, which was similar to the findings of Beesley and Anderson (2007).

The most interesting finding was that the mean OAKS score was significantly different for one of the eight-period five-day cohorts as compare to the seven-period in both four-day formats and the five-day seven periods per day configurations. Although small, there was a statistically significant difference of variance in ELL student OAKS exam score across the school week/periods per day combinations, based on the ANOVA F-test (3,624)=3.113, p=.026 (significant at 5%).

The post-hoc tests indicated that ELL students scored higher on the OAKS standardized exam when the school week had 8 periods per day, with the highest score being in the five-day week format.This could be interpreted as more periods per day in the five-day week configuration produced the best results for ELL students in the sample. The may be due to the fact that more periods per day (eight versus seven) mean shorter class periods, with more breaks, yet ELL students receive more face time with the teacher and with one another, by being at school for five days. Perhaps ELL students would do better with more time spent at school but with shorter duration teaching times to accommodate attention spans.

The socio-cultural backgrounds of the ELL students in the sample were examined. All of the ELL students were Hispanic and they immigrated from Mexico or other Latin American countries. The global cultural profile of Mexicois in direct contrast to USA on three of the five basic cultural dimensions (PDi, ICi, UAi), as summarized below:

- Mexico: PDi=81, **ICi=30**, MFi=69, **UAi=82**, LTi=30[*]; ([*]extrapolated from Latin America);
- USA: PDi=40, **ICi=91**, MFi=62, **UAi=46**, LTi=25;(adapted from Strang, 2012, p. 19).

Given the contrast between USA versus Mexico global culture on the ICi and UAi dimensions, it is possible that the high collectivism (ICi) of the ELL students clashed with the individualism style and expectations of the USA-based teachers and in general the USA high school environment. Mexico UAi at 82 is almost twice that of USA UAi at 46. In a similar contrast, Mexico ICi of 30 is three times lower than USA's ICi of 91.Even more importantly, based on the empirical culture research cited above, it is very likely that the ELL students were high in uncertainty avoidance (UAi) and therefore were less willing to try new approaches to learning. The integration and interaction of these two polarized cultural dimensions – collectivism and uncertainty avoidance - may have had an exponentially negative impact to impede ELL student learning in rural Oregon schools, since by definition, a person with high UAi and low ICi would prefer to work with members of their own clan and avoid new things (not take any risks).

Another study may be relevant to explain this because Strang (2012) found global cultural dimensions tend to abate for younger people when immersed into a different culture. In particular he found that international students in Australia generally become socialized and adapted to the new culture by the second year although their accents and family customs remain unchanged (Strang, 2012). If the above propositions were valid in describing the rural ELL high school students in this sample, the recommendations to improve the situation would be to use a more gradual socialization process in the school week configuration, starting with longer days and five days per week, combined with inviting ELL students to work more in groups to learn quantitative skills (such as working on puzzle problems), so as to accommodate their collectivist preferences, and to reduce the risk taking threat. Furthermore, to reduce the uncertainty, more materials should be made available in their native language during the transition process, so ELL students will have a reference to fall back on when they struggle with the uncertainty of ambiguous terms in their second language. It would be expected that gradually, as students reach their grade 12 level, the socialization process would have dramatically progressed.

In summary, there are two school district implications from this research when also considering the findings cited by other studies. First, changing to a four-day school week saves costs and does not statistically lower the ELL student scores on standardized exams. There was also evidence in the literature that this also holds true for non-ELL students. Second, longer days (8 rather than 7 periods per day) in

a five-day week format, was the best configuration for ELL students, in terms of higher standardized exam scores. Third, culture, rather than school week format, was posited as the underlying factor, in that ELL student uncertainty avoidance and clan-oriented collectivist nature are not beneficial for succeeding in a USA individualist, risk taking context. Therefore, modifications to the instructional approaches would likely improve ELL student performance more so than merely more time with the instructor. For example, more team oriented quantitative activities and Spanish background reading materials (for backup) were recommended to help these students self-actualize and gain self-efficacy in the USA high school system.

The large sample size of 628 ELL students in rural Oregon schools make these results credible and generali zable to the targeted population. Another unique feature of this study was that the data was recent, being drawn from a current sample that went back two years. The reason data currency is important is that a lot has changed since the two major global events of 911-terrorism and the 2008 financial crisis. When also considering the NCLB mandate implementation curve that education practitioners have experienced from 2001 through to the final target of 2014, it makes sense to sample more current data when conducting these types of student school performance studies.

Data needs to be current, closer to political deadlines, because as target dates approach stakeholders react faster and then processes tend to change more quickly. Change events are occurring with respect to resisting NCLB accountability policies for measuring learning. At the time of writing students and their supporters successfully launched several large publicized protests against the use of standardized exams to measure their learning. For example the *Portland Tribune* reported that "Oregon Chief Education Officer Rudy Crew says the state has gone completely crazy with test mania" (Anderson, 2013, p. 1). One school principal pointed out that "if five percent of students at a school opt out of a test, the federal government will label the school in need of improvement, which would surely affect [their] image and impact future enrollment" (Anderson, 2013, p. 5). The induction from this is that if 79% of ELL students are failing the OAKS standardized exam, it seems very probable that soon they and their parents will make their voices heard which in turn will negatively impact many rural schools in Oregon.

b) Limitations and future research

A key limitation in this research, which affects any generalization, is due to the sampling design that focused only on Hispanic ELL students at rural high schools in Oregon. Additionally, gender – a commonly known confounding factor on math tests – was purposely not examined.

The findings in this study were similar to those in the literature where the four-day week did not impact test scores. Hewitt and Deny (2011), Lefly and Penn (2009), Sagness and Salzman(1993), Feaster (2002), as well as Daly and Richburg (1984) found the four-day week had no significant effect on test results. This corroborates with this study although those researchers did not purposively sample Hispanic students.

On the other hand, none of the above cited studies employed the same standardized exam, and in fact most used a school-based instrument but the reliability was not clearly established. In older studies (prior to NCLB and the 2008 financial crisis) other researchers found contrary results to this study, namely that the four-day week impacted test performance. In particular Yarborough and Gilman (2006),Grau and Shaughnessy (1987) along with McCoy (1983)found evidence that the four-day week actually increased test scores although the effect sizes were small. Clearly more replication of this study is needed.

The logical recommendation for researchers, to overcome these limitations, would be to replicate the experiment to other states and countries using rural schools and ELL students, and then introduce contrast comparisons with non-ELL students, including analysis of gender and grade level as predictors of exam score. If such a study were done, no doubt alternative standardized exams could also be employed to investigate if the exam scores could be predicted by ELL versus non-ELL students when controlling for other factors. This could identify if current exams discriminate against ELL students. If this were attempted, it would require some assurance of exam validity and reliability including a comparison to the Oregon OAKS score distribution.

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"Historical Virtues" in U.S. Schooling: How to Refine Character Education?

By Melissa Brevetti

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Introduction- This article includes current issues of character education in American public schooling as findings indicate character education has little long-term influence in the development of virtues for students. Next, I trace the historical roots of virtues from philosophy and theology. These intellectual and moral habits could redefine expectations in modern educational settings, as well as future societal practices. I argue that students need a collaborative effort from parents and teachers that can instill "historical virtues." Through service activities and discussions, students can learn how to internalize moral standards. In conclusion, moral implications from such a traditional understanding of virtues support individual happiness and social progress.

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"Historical Virtues" in U.S. Schooling: How to Refine Character Education?

Melissa Brevetti

I. Introduction

This article includes current issues of character education in American public schooling as findings indicate character education has little long-term influence in the development of virtues for students. Next, I trace the historical roots of virtues from philosophy and theology. These intellectual and moral habits could redefine expectations in modern educational settings, as well as future societal practices. I argue that students need a collaborative effort from parents and teachers that can instill "historical virtues."Through service activities and discussions, students can learn how to internalize moral standards. In conclusion, moral implications from such a traditional understanding of virtues support individual happiness and social progress.

Socrates, as quoted by Plato, spoke these words over 2,500 years ago, "The children now love luxury; they have bad manners, contempt for authority; they show disrespect for elders and love chatter in place of exercise. Children are now tyrants, not the servants of their households. They no longer rise when elders enter the room. They contradict their parents, chatter before company, gobble up dainties at the table, cross their legs, and tyrannize their teachers."Educational debates about practices for a child's moral development have existed since the beginning of time. Indeed, the problem of providing a moral education to students has been, as well as remains, a longstanding issue in American public schooling (Xiandong 2014; Fullinwider 2010; Kunzman 2006; Noddings 2000; Ryan and Lickona 1992).People hold memories from their school experiences for the rest of their lives, and many aspects of character education can be refined in order to provide positive experiences for students. In this article, I seek to shed light on these moral education debates by examining and extending a "historical virtues" approach in present-day U.S. education.

II. Questioning Character Education

Character education focuses on students' development and manifestation of virtues. Development psychologist Thomas Lickona (1991) asserts that honesty, respect, and prudence are important virtues for students to learn and live. Teaching virtues, however, involves many complexities. First, educators, policy makers, administration and even researchers question how these virtues can be taught for long-term moral development in character education. Second, if virtues are not gained by instruction, then educational leaders wonder how these virtues can be gained in school contexts. To grapple with these concepts about moral development more fully, recent research indicates that character is difficult to learn—that is, acquire—through explicit means (Davis 2003). Commanding a person to be responsible or compassionate or kind does not mean that a child improves upon that particular trait. Other research indicates that hands-on approaches, such as volunteer service with discussions and journal writing, do enhance students' moral judgments (Narvaez 2001; Lopez and Lopez 1998,Dulack et al. 2011).Therefore, educators should consider how these specific techniques of moral instruction can lead students to improve their moral thinking.

I am arguing here that service activities and discussions throughout a child's schooling hold valuable components for student moral development. Lawrence Kohlberg and Richard H. Hersh (1977) famously noted, "Whether we like it or not, schooling is a moral enterprise. Values issues abound in the content and process of teaching" (p. 53). I concur. Because of various interactions and rules, school teachers have intricate moral responsibilities so that they implement ways that students can explore beliefs which are evaluative in nature about right or wrong. With character education in mind, these traits cannot be talked into people's hearts; in fact, as Kohlberg (1981) pointed out, character education relies too much on a training method, which often manifest as conscious examples of how to behave. As we shall see shortly, hidden moral curriculum, in rules and dialogues, plays a key role too (Sizer and Sizer 1999; Coles 1986; Paley 1992). Educators, historically and now, thus question how to effectively teach virtues—not to mention the standards of those virtues. Referring to my earlier example, Socrates wondered how virtues should be taught and shared doubts that people learn by explicit means. Despite many complexities, how are sustainable virtues developed? Let us first consider the typical reaction of people who feel forced into a way of thinking. While some people may obey, history reveals that many people will rebel, because they cannot be told what to think or do concerning their own sense of right or wrong. And yet, a child does learn by observing, participating,

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and discussing with careful facilitation of how to behave in virtuous ways.

III. Tracing Historical Roots of the Virtues

In U.S. education, the theoretical roots that shaped character education originated from ancient Greek philosophy. These virtues ethics are questioned and explored as Plato writes conversations between Socrates and his companions in the *Republic.* Through these Socratic dialogues, four virtues are introduced in order to describe various classes of the city: wisdom, courage, moderation, and justice (Plato trans. 1992).The guardians of the city have experience to show wisdom. Other people of the city also demonstrate and share particular virtues; in other words, they use their virtues in the best interest of the city. For instance, the warriors must show courage while they protect the city and its people. Virtues require right reason in actions and contemplation.

In addition to introducing these virtues, Plato argues people have an obligation for truth and education. He explains the "Allegory of the Cave," which demonstrates people should search for wisdom (514a-520a).Despite human errors, this quest for justice, truth, and happiness remains a core component of his work on virtue ethics. Plato is able to "compare the effect of education and of the lack of it on our nature" (514a) through this cave experience of people not willing to take risks and to trust each other so that ideas can grow. Aristotle, Plato's student, regarded wisdom as essential for both individual pleasure and social progress (Aristotle trans. 1999). Plato and Aristotle agreed that moral reasoning is fundamental to fulfillment in life, despite Aristotle placing emphasis on habits as a way to behave virtuously while Plato was concerned about effective modeling and example behaviors. Virtuous thinking, of course, may not lead to moral action. However, for all of these considerations about moral reasoning and roots, educators do understand that these virtues are crucial for collaborative workings of a society.

To Christianize these virtues in the Latin West, Ambrose of Milan first used the term "cardinal virtues" (Ambrose, trans. 1953). During a funeral for his brother Satyrus, he is the first known person to reference the Greek virtues and use the term *virtutes cardinals* as his goal was to show praise. For a person to live by these virtues, that person had achieved a worthy and moral life. Jerome, then, referred to them as modeled from the Greek fathers, which saved original ideas from Origen's analysis (Hagendahl 1958). Many scholars refined theory about development and usage of virtues. However, Thomas Aquinas developed a virtue-oriented system that has become a significant voice in character tradition.

From the writings of Aquinas, four essential virtues—prudence, justice, fortitude, and temperance—are guiding a person's moral thought and actions (Aquinas trans. 1981). These specific virtues are referred to as the "cardinal" virtues, because intellectual and moral life requires these habits as they exemplify human morality. This concept is seen perfectly when Aquinas wrote, "The word *cardinal* comes from hinge, that on which a door opens… so the cardinal virtues are those on this the entrance to humane living turn" (Aquinas trans. 1999, p. 1).In other words, a good life pivots around these traits. Prudence guides the other virtues through experience and practical living as the intellectual virtue. The other three are moral virtues in Thomistic thought. Justice requires fair relations with other people. Two components, as observed by Aquinas, must exist in order for people to demonstrate justice: doing good and avoiding evil. Fortitude involves endurance and mental confidence, and Aquinas expounded it as acting with proper courage in the face of challenges. Temperance allows humans to avoid an excess of pleasurable indulgences. In particular, this trait promotes the practice of moderation so that humans recognize and act with a healthy balance. In order to develop, these traits are viewed as the cornerstones of natural morality.

After having identified philosophical and theological roots of virtues, I would like to explain the educational meaning of "historical virtues" in this article. I am simply considering historical virtues as any and all the traits of these original Greek virtues that exist for people to use in ethical and critical ways. The four earthly virtues are considered foundations in both philosophy and theology. Indeed, many philosophers express that a well-ordered person and well-ordered society use these specific virtues (Mattison III 2008). For the purposes of this article, I am taking into account any traits of these virtues since they were written by Plato and passed down to his students and their students. This type of communication remains a key factor in moral education. Schooling interactions, understood in this way, could cultivate the traits within these virtues, especially valuable characteristics. To illustrate, justice includes honesty, dignity, and gratitude, and these various traits of the virtues become salient for human activities. Implementing these virtues does not mean that limitations exist pertaining to a certain discipline or subject. Thus, moral education of these core virtues can be learned and utilized in any context so that students *feel* the importance of prudence, justice, fortitude, and temperance as a foundation to social progress and human happiness.

IV. Understanding and Implementing Historical Virtues as a Community

As mentioned previously, research studies indicate that hands-on service and dialogue improve moral thinking. The point here is to consider and inspire ways that educators can build these components into curriculum, whether explicitly or implicitly. Students, who are interacting with information and each other, can grapple and question the meaning of virtues while they learn. In a classroom, students are learning what type of community is accepted from the leaders. Although it might be assumed that the director in many ways is the classroom teacher, I would like to point out that students also act in leadership roles that influence their peers greatly. People of all ages experience this every day. For instance, employees at work behave as what is acceptable to other peers. If a person does not like specific demonstrated words or actions, then the expectations are conveyed. Sometimes this is verbally spoken, but often the reactions are nonverbal cues. To further explain this natural moral development, one of the founders of moral development research, Jean Piaget (1966) noted how his research subjects heuristically learned the system as they discussed, reacted, and refined the rules to fit their game. This information is powerful, though because human nature can never conclusively be predicted from situation to situation, it does indicate how children test and waitin order to discover outcomes.

American children do spend significant amounts of time in classrooms. Even so, they are surrounded by many social networks of adults, besides their classroom teachers, who touch their lives. Coaches, tutors, friends' parents, and community leaders interact with youth as they navigate their social relations. With this in mind, students often tend to imitate adults around them. A significant body of research indicates parents are a child's first teacher and the strongest influence for academic success (Henderson and Mapp 2002; Jeynes 2007; Mihyeon 2014). Teachers and parents must act with moral responsibility so that students understand expectations regarding moral behavior too. According to Bransford et al. (2000), students account only 14% of their time in school, while they spend 33% sleeping and 53% at home and in the community. When the school and outer community become connected, the students' best interest for intellectual and moral development can be enhanced.

One example of success through mutual respect, strong community, and committed love can be seen with Deborah Meier's "small-schools movement" where school leaders promote the ideology of dreams as public property (1995).She recognizes schools acting with cooperative investment, because the community values inclusion and collaboration. I would like to extend her idea by proffering that these creative collaborations often lead to moral lessons, relating to prudence and justice, since community members begin to cherish differences and to build relationships. The historical virtues stay the same, yet students must learn how to apply them in daily habits, whether at school or not.In order to learn these virtues, students must observe how teachers use and live these traits. As with a story, morality is not told but needs to be illustrated. Students, who become active learners and not passive recipients, are able to engage in school opportunities where they work on social projects or fund-raise for causes; in other words, these types of experiences foster service and care. Math classes could use formulas and budgeting skills to build or fund-raise for people in need. Furthermore, social sciences classes, such as history, philosophy, and geography, could discuss issues of fairness and learn practices for compassion. As moral thinking develops, students learn to adjust rules of social interactions (Piaget 1966), and this becomes apparent by the moral nature of interactions within a school system. Based upon this view, teachers constantly make moral judgments of what and how to teach in their classrooms. Children, most importantly, tend to imitate what they see and hear, following the lead of teachers and other students. For this reason, if American educators want to build a community of virtuous people, then they also recognize that passing down virtues requires moral responsibility and much love.

V. Concluding Thoughts

This model of historical virtues that developed from ancient history and philosophy are not new—rather, it involves applying and embracing habits of these virtues in present-day times without a prescriptive approach. Given the complexities of human thoughts and actions, educators, parents, and mentors should encourage an openness to explore and discuss how to practice a life of love through these historical virtues. However, students are always watching and absorbing new information, and they will develop an internal moral compass from pragmatic application. If these virtues are not examined with proper attention, students will neglect the significance of virtues, truth, and happiness. By allowing and encouraging questions, educators demonstrate moral teachings are there, not to constrict at all, but lead people toward balance and happiness. Fulfilled lives respect others and self. Educators and parents have a responsibility to provide space and support while students grapple for personal meaning and evolve from moral challenges. As a significant moral development pioneer, Piaget (1966) observed, "Moral consciousness appears when the self is no longer in a state of harmony, when there is opposition between the various tendencies that constitute it" (388).Therefore, conflict promotes progress and all educators can seize

the opportunity to promote moral development from everyday school challenges.

To conclude, this discussion examines the origin of historical virtues and the current need to refine character education by exploring and applying traditional moral standards for situations of the 21st century. As demonstrated through this review of the history and implementation of virtues, I argue that increased awareness and deepened understanding of how to apply these virtues are key components in order to improve modern character education practices. Historically, and certainly today, students ask, "Why does being morally good matter?"We can answer, despite thousands of years filled with inquiry and debates, humans know a simple, universal truth: individual happiness and social progress are rooted in love. Put succinctly, to develop good people we have to care and provide an authentic moral education for all. Socrates had concerns about a morally good education for the youth of many, many years ago. Heasserted that education should make its most critical concern a question of how humans can learn to live virtuously since fulfilled and happy people understand lives as rooted in an ethic of love.I second the motion.

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We shall provide you intimation regarding launching of e-version of journal of your stream time to time.This may be utilized in your library for the enrichment of knowledge of your students as well as it can also be helpful for the concerned faculty members.

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As FARSHS, you will be given a renowned, secure and free professional email address with 100 GB of space e.g. johnhall@globaljournals.org. This will include Webmail, Spam Assassin, Email Forwarders,Auto-Responders, Email Delivery Route tracing, etc.

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The FARSHS member can apply for grading and certification of standards of the educational and Institutional Degrees to Open Association of Research, Society U.S.A. Once you are designated as FARSHS, you may send us a scanned copy of all of your credentials. OARS will verify, grade and certify them. This will be based on your academic records, quality of research papers published by you, and some more criteria. After certification of all your credentials by OARS, they will be published on your Fellow Profile link on website https://associationofresearch.org which will be helpful to upgrade the dignity.

The FARSHS members can avail the benefits of free research podcasting in Global Research Radio with their research documents. After publishing the work, (including published elsewhere worldwide with proper authorization) you can upload your research paper with your recorded voice or you can utilize chargeable services of our professional RJs to record your paper in their voice on request.

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The FARSHS is eligible to earn from sales proceeds of his/her researches/reference/review Books or literature, while publishing with Global Journals. The FARSHS can decide whether he/she would like to publish his/her research in a closed manner. In this case, whenever readers purchase that individual research paper for reading, maximum 60% of its p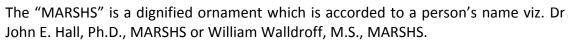rofit earned as royalty by Global Journals, will be credited to his/her bank account. The entire entitled amount will be credited to his/her bank account exceeding limit of minimum fixed balance. There is no minimum time limit for collection. The FARSS member can decide its price and we can help in making the right decision.

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The ' MARSHS ' title is accorded to a selected professional after the approval of the Editor-in-Chief / Editorial Board Members/Dean.

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MARSHS accrediting is an honor. It authenticates your research activities. Afterbecoming MARSHS, you can add 'MARSHS' title with your name as you use this recognition as additional suffix to your status. This will definitely enhance and add more value and repute to your name. You may use it on your professional Counseling Materials such as CV, Resume, Visiting Card and Name Plate etc.

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We shall provide you intimation regarding launching of e-version of journal of your stream time to time.This may be utilized in your library for the enrichment of knowledge of your students as well as it can also be helpful for the concerned faculty members.

The MARSHS member can apply for approval, grading and certification of standards of their educational and Institutional Degrees to Open Association of Research, Society U.S.A.

Once you are designated as MARSHS, you may send us a scanned copy of all of your credentials. OARS will verify, grade and certify them. This will be based on your academic records, quality of research papers published by you, and some more criteria.

It is mandatory to read all terms and conditions carefully.

AUXILIARY MEMBERSHIPS

Institutional Fellow of Open Association of Research Society (USA)-OARS (USA)

Global Journals Incorporation (USA) is accredited by Open Association of Research Society, U.S.A (OARS) and in turn, affiliates research institutions as "Institutional Fellow of Open Association of Research Society" (IFOARS).

The "FARSC" is a dignified title which is accorded to a person's name viz. Dr. John E. Hall, Ph.D., FARSC or William Walldroff, M.S., FARSC.

The IFOARS institution is entitled to form a Board comprised of one Chairperson and three to five board members preferably from different streams. The Board will be recognized as "Institutional Board of Open Association of Research Society"-(IBOARS).

The Institute will be entitled to following benefits:

The IBOARS can initially review research papers of their institute and recommend them to publish with respective journal of Global Journals. It can also review the papers of other institutions after obtaining our consent. The second review will be done by peer reviewer of Global Journals Incorporation (USA) The Board is at liberty to appoint a peer reviewer with the approval of chairperson after consulting us.
The author fees of such paper may be waived off up to 40%.

The Global Journals Incorporation (USA) at its discretion can also refer double blind peer reviewed paper at their end to the board for the verification and to get recommendation for final stage of acceptance of publication.

The IBOARS can organize symposium/seminar/conference in their country on behalf of Global Journals Incorporation (USA)-OARS (USA). The terms and conditions can be discussed separately.

The Board can also play vital role by exploring and giving valuable suggestions regarding the Standards of "Open Association of Research Society, U.S.A (OARS)" so that proper amendment can take place for the benefit of entire research community. We shall provide details of particular standard only on receipt of request from the Board.

The board members can also join us as Individual Fellow with 40% discount on total fees applicable to Individual Fellow. They will be entitled to avail all the benefits as declared. Please visit Individual Fellow-sub menu of GlobalJournals.org to have more relevant details.

We shall provide you intimation regarding launching of e-version of journal of your stream time to time. This may be utilized in your library for the enrichment of knowledge of your students as well as it can also be helpful for the concerned faculty members.

After nomination of your institution as "Institutional Fellow" and constantly functioning successfully for one year, we can consider giving recognition to your institute to function as Regional/Zonal office on our behalf.
The board can also take up the additional allied activities for betterment after our consultation.

The following entitlements are applicable to individual Fellows:

Open Association of Research Society, U.S.A (OARS) By-laws states that an individual Fellow may use the designations as applicable, or the corresponding initials. The Credentials of individual Fellow and Associate designations signify that the individual has gained knowledge of the fundamental concepts. One is magnanimous and proficient in an expertise course covering the professional code of conduct, and follows recognized standards of practice.

Open Association of Research Society (US)/ Global Journals Incorporation (USA), as described in Corporate Statements, are educational, research publishing and professional membership organizations. Achieving our individual Fellow or Associate status is based mainly on meeting stated educational research requirements.

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> ➢ The professional accredited with Fellow honor, is entitled to various benefits viz. name, fame, honor, regular flow of income, secured bright future, social status etc.

- In addition to above, if one is single author, then entitled to 40% discount on publishing research paper and can get 10%discount if one is co-author or main author among group of authors.
- The Fellow can organize symposium/seminar/conference on behalf of Global Journals Incorporation (USA) and he/she can also attend the same organized by other institutes on behalf of Global Journals.
- The Fellow can become member of Editorial Board Member after completing 3yrs.
- The Fellow can earn 60% of sales proceeds from the sale of reference/review books/literature/publishing of research paper.
- Fellow can also join as paid peer reviewer and earn 15% remuneration of author charges and can also get an opportunity to join as member of the Editorial Board of Global Journals Incorporation (USA)
- • This individual has learned the basic methods of applying those concepts and techniques to common challenging situations. This individual has further demonstrated an in–depth understanding of the application of suitable techniques to a particular area of research practice.

Note :

"
- In future, if the board feels the necessity to change any board member, the same can be done with the consent of the chairperson along with anyone board member without our approval.

- In case, the chairperson needs to be replaced then consent of 2/3rd board members are required and they are also required to jointly pass the resolution copy of which should be sent to us. In such case, it will be compulsory to obtain our approval before replacement.

- In case of "Difference of Opinion [if any]" among the Board members, our decision will be final and binding to everyone. "

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The paper should be in proper format. The format can be downloaded from first page of 'Author Guideline' Menu. The Author is expected to follow the general rules as mentioned in this menu. The paper should be written in MS-Word Format (*.DOC,*.DOCX).

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You can use your own standard format also.
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1. General,

2. Ethical Guidelines,

3. Submission of Manuscripts,

4. Manuscript's Category,

5. Structure and Format of Manuscript,

6. After Acceptance.

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Before submitting your research paper, one is advised to go through the details as mentioned in following heads. It will be beneficial, while peer reviewer justify your paper for publication.

Scope

The Global Journals Inc. (US) welcome the submission of original paper, review paper, survey article relevant to the all the streams of Philosophy and knowledge. The Global Journals Inc. (US) is parental platform for Global Journal of Computer Science and Technology, Researches in Engineering, Medical Research, Science Frontier Research, Human Social Science, Management, and Business organization. The choice of specific field can be done otherwise as following in Abstracting and Indexing Page on this Website. As the all Global

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All authors should have been credited according to their appropriate contribution in research activity and preparing paper. Contributors who do not match the criteria as authors may be mentioned under Acknowledgement.

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To avoid postal delays, all transaction is preferred by e-mail. A finished manuscript submission is confirmed by e-mail immediately and your paper enters the editorial process with no postal delays. When a conclusion is made about the publication of your paper by our Editorial Board, revisions can be submitted online with the same procedure, with an occasion to view and respond to all comments.

Complete support for both authors and co-author is provided.

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Based on potential and nature, the manuscript can be categorized under the following heads:

Original research paper: Such papers are reports of high-level significant original research work.

Review papers: These are concise, significant but helpful and decisive topics for young researchers.

Research articles: These are handled with small investigation and applications

Research letters: The letters are small and concise comments on previously published matters.

5.STRUCTURE AND FORMAT OF MANUSCRIPT

The recommended size of original research paper is less than seven thousand words, review papers fewer than seven thousands words also.Preparation of research paper or how to write research paper, are major hurdle, while writing manuscript. The research articles and research letters should be fewer than three thousand words, the structure original research paper; sometime review paper should be as follows:

Papers: These are reports of significant research (typically less than 7000 words equivalent, including tables, figures, references), and comprise:

(a)Title should be relevant and commensurate with the theme of the paper.

(b) A brief Summary, "Abstract" (less than 150 words) containing the major results and conclusions.

(c) Up to ten keywords, that precisely identifies the paper's subject, purpose, and focus.

(d) An Introduction, giving necessary background excluding subheadings; objectives must be clearly declared.

(e) Resources and techniques with sufficient complete experimental details (wherever possible by reference) to permit repetition; sources of information must be given and numerical methods must be specified by reference, unless non-standard.

(f) Results should be presented concisely, by well-designed tables and/or figures; the same data may not be used in both; suitable statistical data should be given. All data must be obtained with attention to numerical detail in the planning stage. As reproduced design has been recognized to be important to experiments for a considerable time, the Editor has decided that any paper that appears not to have adequate numerical treatments of the data will be returned un-refereed;

(g) Discussion should cover the implications and consequences, not just recapitulating the results; conclusions should be summarizing.

(h) Brief Acknowledgements.

(i) References in the proper form.

Authors should very cautiously consider the preparation of papers to ensure that they communicate efficiently. Papers are much more likely to be accepted, if they are cautiously designed and laid out, contain few or no errors, are summarizing, and be conventional to the approach and instructions. They will in addition, be published with much less delays than those that require much technical and editorial correction.

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It is vital, that authors take care in submitting a manuscript that is written in simple language and adheres to published guidelines.

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Language: The language of publication is UK English. Authors, for whom English is a second language, must have their manuscript efficiently edited by an English-speaking person before submission to make sure that, the English is of high excellence. It is preferable, that manuscripts should be professionally edited.

Standard Usage, Abbreviations, and Units: Spelling and hyphenation should be conventional to The Concise Oxford English Dictionary. Statistics and measurements should at all times be given in figures, e.g. 16 min, except for when the number begins a sentence. When the number does not refer to a unit of measurement it should be spelt in full unless, it is 160 or greater.

Abbreviations supposed to be used carefully. The abbreviated name or expression is supposed to be cited in full at first usage, followed by the conventional abbreviation in parentheses.

Metric SI units are supposed to generally be used excluding where they conflict with current practice or are confusing. For illustration, 1.4 l rather than $1.4 \times 10\text{-}3$ m3, or 4 mm somewhat than $4 \times 10\text{-}3$ m. Chemical formula and solutions must identify the form used, e.g. anhydrous or hydrated, and the concentration must be in clearly defined units. Common species names should be followed by underlines at the first mention. For following use the generic name should be constricted to a single letter, if it is clear.

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Many researchers searching for information online will use search engines such as Google, Yahoo or similar. By optimizing your paper for search engines, you will amplify the chance of someone finding it. This in turn will make it more likely to be viewed and/or cited in a further work. Global Journals Inc. (US) have compiled these guidelines to facilitate you to maximize the web-friendliness of the most public part of your paper.

Key Words

A major linchpin in research work for the writing research paper is the keyword search, which one will employ to find both library and Internet resources.

One must be persistent and creative in using keywords. An effective keyword search requires a strategy and planning a list of possible keywords and phrases to try.

Search engines for most searches, use Boolean searching, which is somewhat different from Internet searches. The Boolean search uses "operators," words (and, or, not, and near) that enable you to expand or narrow your affords. Tips for research paper while preparing research paper are very helpful guideline of research paper.

Choice of key words is first tool of tips to write research paper. Research paper writing is an art.A few tips for deciding as strategically as possible about keyword search:

- One should start brainstorming lists of possible keywords before even begin searching. Think about the most important concepts related to research work. Ask, "What words would a source have to include to be truly valuable in research paper?" Then consider synonyms for the important words.
- It may take the discovery of only one relevant paper to let steer in the right keyword direction because in most databases, the keywords under which a research paper is abstracted are listed with the paper.
- One should avoid outdated words.

Keywords are the key that opens a door to research work sources. Keyword searching is an art in which researcher's skills are bound to improve with experience and time.

Numerical Methods: Numerical methods used should be clear and, where appropriate, supported by references.

Acknowledgements: Please make these as concise as possible.

References

References follow the Harvard scheme of referencing. References in the text should cite the authors' names followed by the time of their publication, unless there are three or more authors when simply the first author's name is quoted followed by et al. unpublished work has to only be cited where necessary, and only in the text. Copies of references in press in other journals have to be supplied with submitted typescripts. It is necessary that all citations and references be carefully checked before submission, as mistakes or omissions will cause delays.

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Tables: Tables should be few in number, cautiously designed, uncrowned, and include only essential data. Each must have an Arabic number, e.g. Table 4, a self-explanatory caption and be on a separate sheet. Vertical lines should not be used.

Figures: Figures are supposed to be submitted as separate files. Always take in a citation in the text for each figure using Arabic numbers, e.g. Fig. 4. Artwork must be submitted online in electronic form by e-mailing them.

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6. AFTER ACCEPTANCE

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6.1 Proof Corrections

The corresponding author will receive an e-mail alert containing a link to a website or will be attached. A working e-mail address must therefore be provided for the related author.

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TECHNIQUES FOR WRITING A GOOD QUALITY RESEARCH PAPER:

1. Choosing the topic: In most cases, the topic is searched by the interest of author but it can be also suggested by the guides. You can have several topics and then you can judge that in which topic or subject you are finding yourself most comfortable. This can be done by asking several questions to yourself, like Will I be able to carry our search in this area? Will I find all necessary recourses to accomplish the search? Will I be able to find all information in this field area? If the answer of these types of questions will be "Yes" then you can choose that topic. In most of the cases, you may have to conduct the surveys and have to visit several places because this field is related to Computer Science and Information Technology. Also, you may have to do a lot of work to find all rise and falls regarding the various data of that subject. Sometimes, detailed information plays a vital role, instead of short information.

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3. Think Like Evaluators: If you are in a confusion or getting demotivated that your paper will be accepted by evaluators or not, then think and try to evaluate your paper like an Evaluator. Try to understand that what an evaluator wants in your research paper and automatically you will have your answer.

4. Make blueprints of paper: The outline is the plan or framework that will help you to arrange your thoughts. It will make your paper logical. But remember that all points of your outline must be related to the topic you have chosen.

5. Ask your Guides: If you are having any difficulty in your research, then do not hesitate to share your difficulty to your guide (if you have any). They will surely help you out and resolve your doubts. If you can't clarify what exactly you require for your work then ask the supervisor to help you with the alternative. He might also provide you the list of essential readings.

6. Use of computer is recommended: As you are doing research in the field of Computer Science, then this point is quite obvious.

7. Use right software: Always use good quality software packages. If you are not capable to judge good software then you can lose quality of your paper unknowingly. There are various software programs available to help you, which you can get through Internet.

8. Use the Internet for help: An excellent start for your paper can be by using the Google. It is an excellent search engine, where you can have your doubts resolved. You may also read some answers for the frequent question how to write my research paper or find model research paper. From the internet library you can download books. If you have all required books make important reading selecting and analyzing the specified information. Then put together research paper sketch out.

9. Use and get big pictures: Always use encyclopedias, Wikipedia to get pictures so that you can go into the depth.

10. Bookmarks are useful: When you read any book or magazine, you generally use bookmarks, right! It is a good habit, which helps to not to lose your continuity. You should always use bookmarks while searching on Internet also, which will make your search easier.

11. Revise what you wrote: When you write anything, always read it, summarize it and then finalize it.

12. Make all efforts: Make all efforts to mention what you are going to write in your paper. That means always have a good start. Try to mention everything in introduction, that what is the need of a particular research paper. Polish your work by good skill of writing and always give an evaluator, what he wants.

13. Have backups: When you are going to do any important thing like making research paper, you should always have backup copies of it either in your computer or in paper. This will help you to not to lose any of your important.

14. Produce good diagrams of your own: Always try to include good charts or diagrams in your paper to improve quality. Using several and unnecessary diagrams will degrade the quality of your paper by creating "hotchpotch." So always, try to make and include those diagrams, which are made by your own to improve readability and understandability of your paper.

15. Use of direct quotes: When you do research relevant to literature, history or current affairs then use of quotes become essential but if study is relevant to science then use of quotes is not preferable.

16. Use proper verb tense: Use proper verb tenses in your paper. Use past tense, to present those events that happened. Use present tense to indicate events that are going on. Use future tense to indicate future happening events. Use of improper and wrong tenses will confuse the evaluator. Avoid the sentences that are incomplete.

17. Never use online paper: If you are getting any paper on Internet, then never use it as your research paper because it might be possible that evaluator has already seen it or maybe it is outdated version.

18. Pick a good study spot: To do your research studies always try to pick a spot, which is quiet. Every spot is not for studies. Spot that suits you choose it and proceed further.

19. Know what you know: Always try to know, what you know by making objectives. Else, you will be confused and cannot achieve your target.

20. Use good quality grammar: Always use a good quality grammar and use words that will throw positive impact on evaluator. Use of good quality grammar does not mean to use tough words, that for each word the evaluator has to go through dictionary. Do not start sentence with a conjunction. Do not fragment sentences. Eliminate one-word sentences. Ignore passive voice. Do not ever use a big word when a diminutive one would suffice. Verbs have to be in agreement with their subjects. Prepositions are not expressions to finish sentences with. It is incorrect to ever divide an infinitive. Avoid clichés like the disease. Also, always shun irritating alliteration. Use language that is simple and straight forward. put together a neat summary.

21. Arrangement of information: Each section of the main body should start with an opening sentence and there should be a changeover at the end of the section. Give only valid and powerful arguments to your topic. You may also maintain your arguments with records.

22. Never start in last minute: Always start at right time and give enough time to research work. Leaving everything to the last minute will degrade your paper and spoil your work.

23. Multitasking in research is not good: Doing several things at the same time proves bad habit in case of research activity. Research is an area, where everything has a particular time slot. Divide your research work in parts and do particular part in particular time slot.

24. Never copy others' work: Never copy others' work and give it your name because if evaluator has seen it anywhere you will be in trouble.

25. Take proper rest and food: No matter how many hours you spend for your research activity, if you are not taking care of your health then all your efforts will be in vain. For a quality research, study is must, and this can be done by taking proper rest and food.

26. Go for seminars: Attend seminars if the topic is relevant to your research area. Utilize all your resources.

27. Refresh your mind after intervals: Try to give rest to your mind by listening to soft music or by sleeping in intervals. This will also improve your memory.

28. Make colleagues: Always try to make colleagues. No matter how sharper or intelligent you are, if you make colleagues you can have several ideas, which will be helpful for your research.

29. Think technically: Always think technically. If anything happens, then search its reasons, its benefits, and demerits.

30. Think and then print: When you will go to print your paper, notice that tables are not be split, headings are not detached from their descriptions, and page sequence is maintained.

31. Adding unnecessary information: Do not add unnecessary information, like, I have used MS Excel to draw graph. Do not add irrelevant and inappropriate material. These all will create superfluous. Foreign terminology and phrases are not apropos. One should NEVER take a broad view. Analogy in script is like feathers on a snake. Not at all use a large word when a very small one would be sufficient. Use words properly, regardless of how others use them. Remove quotations. Puns are for kids, not grunt readers. Amplification is a billion times of inferior quality than sarcasm.

32. Never oversimplify everything: To add material in your research paper, never go for oversimplification. This will definitely irritate the evaluator. Be more or less specific. Also too, by no means, ever use rhythmic redundancies. Contractions aren't essential and shouldn't be there used. Comparisons are as terrible as clichés. Give up ampersands and abbreviations, and so on. Remove commas, that are, not necessary. Parenthetical words however should be together with this in commas. Understatement is all the time the complete best way to put onward earth-shaking thoughts. Give a detailed literary review.

33. Report concluded results: Use concluded results. From raw data, filter the results and then conclude your studies based on measurements and observations taken. Significant figures and appropriate number of decimal places should be used. Parenthetical remarks are prohibitive. Proofread carefully at final stage. In the end give outline to your arguments. Spot out perspectives of further study of this subject. Justify your conclusion by at the bottom of them with sufficient justifications and examples.

34. After conclusion: Once you have concluded your research, the next most important step is to present your findings. Presentation is extremely important as it is the definite medium though which your research is going to be in print to the rest of the crowd. Care should be taken to categorize your thoughts well and present them in a logical and neat manner. A good quality research paper format is essential because it serves to highlight your research paper and bring to light all necessary aspects in your research.

INFORMAL GUIDELINES OF RESEARCH PAPER WRITING

Key points to remember:

- Submit all work in its final form.
- Write your paper in the form, which is presented in the guidelines using the template.
- Please note the criterion for grading the final paper by peer-reviewers.

Final Points:

A purpose of organizing a research paper is to let people to interpret your effort selectively. The journal requires the following sections, submitted in the order listed, each section to start on a new page.

The introduction will be compiled from reference matter and will reflect the design processes or outline of basis that direct you to make study. As you will carry out the process of study, the method and process section will be constructed as like that. The result segment will show related statistics in nearly sequential order and will direct the reviewers next to the similar intellectual paths throughout the data that you took to carry out your study. The discussion section will provide understanding of the data and projections as to the implication of the results. The use of good quality references all through the paper will give the effort trustworthiness by representing an alertness of prior workings.

Writing a research paper is not an easy job no matter how trouble-free the actual research or concept. Practice, excellent preparation, and controlled record keeping are the only means to make straightforward the progression.

General style:

Specific editorial column necessities for compliance of a manuscript will always take over from directions in these general guidelines.

To make a paper clear

· Adhere to recommended page limits

Mistakes to evade

- Insertion a title at the foot of a page with the subsequent text on the next page
- Separating a table/chart or figure - impound each figure/table to a single page
- Submitting a manuscript with pages out of sequence

In every sections of your document

· Use standard writing style including articles ("a", "the," etc.)

· Keep on paying attention on the research topic of the paper

· Use paragraphs to split each significant point (excluding for the abstract)

· Align the primary line of each section

· Present your points in sound order

· Use present tense to report well accepted

· Use past tense to describe specific results

· Shun familiar wording, don't address the reviewer directly, and don't use slang, slang language, or superlatives

· Shun use of extra pictures - include only those figures essential to presenting results

Title Page:

Choose a revealing title. It should be short. It should not have non-standard acronyms or abbreviations. It should not exceed two printed lines. It should include the name(s) and address (es) of all authors.

Abstract:

The summary should be two hundred words or less. It should briefly and clearly explain the key findings reported in the manuscript--must have precise statistics. It should not have abnormal acronyms or abbreviations. It should be logical in itself. Shun citing references at this point.

An abstract is a brief distinct paragraph summary of finished work or work in development. In a minute or less a reviewer can be taught the foundation behind the study, common approach to the problem, relevant results, and significant conclusions or new questions.

Write your summary when your paper is completed because how can you write the summary of anything which is not yet written? Wealth of terminology is very essential in abstract. Yet, use comprehensive sentences and do not let go readability for briefness. You can maintain it succinct by phrasing sentences so that they provide more than lone rationale. The author can at this moment go straight to shortening the outcome. Sum up the study, with the subsequent elements in any summary. Try to maintain the initial two items to no more than one ruling each.

- Reason of the study - theory, overall issue, purpose
- Fundamental goal
- To the point depiction of the research
- Consequences, including <u>definite statistics</u> - if the consequences are quantitative in nature, account quantitative data; results of any numerical analysis should be reported
- Significant conclusions or questions that track from the research(es)

Approach:

- Single section, and succinct
- As a outline of job done, it is always written in past tense
- A conceptual should situate on its own, and not submit to any other part of the paper such as a form or table
- Center on shortening results - bound background information to a verdict or two, if completely necessary
- What you account in an conceptual must be regular with what you reported in the manuscript
- Exact spelling, clearness of sentences and phrases, and appropriate reporting of quantities (proper units, important statistics) are just as significant in an abstract as they are anywhere else

Introduction:

The **Introduction** should "introduce" the manuscript. The reviewer should be presented with sufficient background information to be capable to comprehend and calculate the purpose of your study without having to submit to other works. The basis for the study should be offered. Give most important references but shun difficult to make a comprehensive appraisal of the topic. In the introduction, describe the problem visibly. If the problem is not acknowledged in a logical, reasonable way, the reviewer will have no attention in your result. Speak in common terms about techniques used to explain the problem, if needed, but do not present any particulars about the protocols here. Following approach can create a valuable beginning:

- Explain the value (significance) of the study
- Shield the model - why did you employ this particular system or method? What is its compensation? You strength remark on its appropriateness from a abstract point of vision as well as point out sensible reasons for using it.
- Present a justification. Status your particular theory (es) or aim(s), and describe the logic that led you to choose them.
- Very for a short time explain the tentative propose and how it skilled the declared objectives.

Approach:

- Use past tense except for when referring to recognized facts. After all, the manuscript will be submitted after the entire job is done.
- Sort out your thoughts; manufacture one key point with every section. If you make the four points listed above, you will need a least of four paragraphs.

- Present surroundings information only as desirable in order hold up a situation. The reviewer does not desire to read the whole thing you know about a topic.
- Shape the theory/purpose specifically - do not take a broad view.
- As always, give awareness to spelling, simplicity and correctness of sentences and phrases.

Procedures (Methods and Materials):

This part is supposed to be the easiest to carve if you have good skills. A sound written Procedures segment allows a capable scientist to replacement your results. Present precise information about your supplies. The suppliers and clarity of reagents can be helpful bits of information. Present methods in sequential order but linked methodologies can be grouped as a segment. Be concise when relating the protocols. Attempt for the least amount of information that would permit another capable scientist to spare your outcome but be cautious that vital information is integrated. The use of subheadings is suggested and ought to be synchronized with the results section. When a technique is used that has been well described in another object, mention the specific item describing a way but draw the basic principle while stating the situation. The purpose is to text all particular resources and broad procedures, so that another person may use some or all of the methods in one more study or referee the scientific value of your work. It is not to be a step by step report of the whole thing you did, nor is a methods section a set of orders.

Materials:

- Explain materials individually only if the study is so complex that it saves liberty this way.
- Embrace particular materials, and any tools or provisions that are not frequently found in laboratories.
- Do not take in frequently found.
- If use of a definite type of tools.
- Materials may be reported in a part section or else they may be recognized along with your measures.

Methods:

- Report the method (not particulars of each process that engaged the same methodology)
- Describe the method entirely
- To be succinct, present methods under headings dedicated to specific dealings or groups of measures
- Simplify - details how procedures were completed not how they were exclusively performed on a particular day.
- If well known procedures were used, account the procedure by name, possibly with reference, and that's all.

Approach:

- It is embarrassed or not possible to use vigorous voice when documenting methods with no using first person, which would focus the reviewer's interest on the researcher rather than the job. As a result when script up the methods most authors use third person passive voice.
- Use standard style in this and in every other part of the paper - avoid familiar lists, and use full sentences.

What to keep away from

- Resources and methods are not a set of information.
- Skip all descriptive information and surroundings - save it for the argument.
- Leave out information that is immaterial to a third party.

Results:

The principle of a results segment is to present and demonstrate your conclusion. Create this part a entirely objective details of the outcome, and save all understanding for the discussion.

The page length of this segment is set by the sum and types of data to be reported. Carry on to be to the point, by means of statistics and tables, if suitable, to present consequences most efficiently.You must obviously differentiate material that would usually be incorporated in a study editorial from any unprocessed data or additional appendix matter that would not be available. In fact, such matter should not be submitted at all except requested by the instructor.

Content

- Sum up your conclusion in text and demonstrate them, if suitable, with figures and tables.
- In manuscript, explain each of your consequences, point the reader to remarks that are most appropriate.
- Present a background, such as by describing the question that was addressed by creation an exacting study.
- Explain results of control experiments and comprise remarks that are not accessible in a prescribed figure or table, if appropriate.
- Examine your data, then prepare the analyzed (transformed) data in the form of a figure (graph), table, or in manuscript form.

What to stay away from

- Do not discuss or infer your outcome, report surroundings information, or try to explain anything.
- Not at all, take in raw data or intermediate calculations in a research manuscript.

- Do not present the similar data more than once.
- Manuscript should complement any figures or tables, not duplicate the identical information.
- Never confuse figures with tables - there is a difference.

Approach

- As forever, use past tense when you submit to your results, and put the whole thing in a reasonable order.
- Put figures and tables, appropriately numbered, in order at the end of the report
- If you desire, you may place your figures and tables properly within the text of your results part.

Figures and tables

- If you put figures and tables at the end of the details, make certain that they are visibly distinguished from any attach appendix materials, such as raw facts
- Despite of position, each figure must be numbered one after the other and complete with subtitle
- In spite of position, each table must be titled, numbered one after the other and complete with heading
- All figure and table must be adequately complete that it could situate on its own, divide from text

Discussion:

The Discussion is expected the trickiest segment to write and describe. A lot of papers submitted for journal are discarded based on problems with the Discussion. There is no head of state for how long a argument should be. Position your understanding of the outcome visibly to lead the reviewer through your conclusions, and then finish the paper with a summing up of the implication of the study. The purpose here is to offer an understanding of your results and hold up for all of your conclusions, using facts from your research and generally accepted information, if suitable. The implication of result should be visibly described. Infer your data in the conversation in suitable depth. This means that when you clarify an observable fact you must explain mechanisms that may account for the observation. If your results vary from your prospect, make clear why that may have happened. If your results agree, then explain the theory that the proof supported. It is never suitable to just state that the data approved with prospect, and let it drop at that.

- Make a decision if each premise is supported, discarded, or if you cannot make a conclusion with assurance. Do not just dismiss a study or part of a study as "uncertain."
- Research papers are not acknowledged if the work is imperfect. Draw what conclusions you can based upon the results that you have, and take care of the study as a finished work
- You may propose future guidelines, such as how the experiment might be personalized to accomplish a new idea.
- Give details all of your remarks as much as possible, focus on mechanisms.
- Make a decision if the tentative design sufficiently addressed the theory, and whether or not it was correctly restricted.
- Try to present substitute explanations if sensible alternatives be present.
- One research will not counter an overall question, so maintain the large picture in mind, where do you go next? The best studies unlock new avenues of study. What questions remain?
- Recommendations for detailed papers will offer supplementary suggestions.

Approach:

- When you refer to information, differentiate data generated by your own studies from available information
- Submit to work done by specific persons (including you) in past tense.
- Submit to generally acknowledged facts and main beliefs in present tense.

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Topics	Grades		
	A-B	**C-D**	**E-F**
Abstract	Clear and concise with appropriate content, Correct format. 200 words or below	Unclear summary and no specific data, Incorrect form Above 200 words	No specific data with ambiguous information Above 250 words
Introduction	Containing all background details with clear goal and appropriate details, flow specification, no grammar and spelling mistake, well organized sentence and paragraph, reference cited	Unclear and confusing data, appropriate format, grammar and spelling errors with unorganized matter	Out of place depth and content, hazy format
Methods and Procedures	Clear and to the point with well arranged paragraph, precision and accuracy of facts and figures, well organized subheads	Difficult to comprehend with embarrassed text, too much explanation but completed	Incorrect and unorganized structure with hazy meaning
Result	Well organized, Clear and specific, Correct units with precision, correct data, well structuring of paragraph, no grammar and spelling mistake	Complete and embarrassed text, difficult to comprehend	Irregular format with wrong facts and figures
Discussion	Well organized, meaningful specification, sound conclusion, logical and concise explanation, highly structured paragraph reference cited	Wordy, unclear conclusion, spurious	Conclusion is not cited, unorganized, difficult to comprehend
References	Complete and correct format, well organized	Beside the point, Incomplete	Wrong format and structuring

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