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Academic Achievement Differences by Student Mobility: An Analysis of Texas Grade 8 Student Performance

By Benjamin Mark Bostick & John R. Slate

Sam Houston State University

Abstract- Differences in reading, mathematics, and science achievement of Grade 8 students as a function of mobility were examined with and without controls for economic status in this investigation. Data were obtained from the Texas Education Agency Public Education Information Management System for the 2003-2004 through the 2007-2008 school years. Statistically significant differences were revealed in reading, mathematics, and science test scores as a function of student mobility, both when controlling for and not controlling for economic status. Mobile students had statistically significantly lower reading and mathematics test scores than did non-mobile students for all 6 school years. Science scores were statistically significantly lower for all three years for which data were available. Implications for policy and practice and suggestions for future research were made.

Keywords: mobility, academic achievement, poverty, grade 8, texas.

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Academic Achievement Differences by Student Mobility: An Analysis of Texas Grade 8 Student Performance

Benjamin Mark Bostick [α] & John R. Slate [σ]

Abstract- Differences in reading, mathematics, and science achievement of Grade 8 students as a function of mobility were examined with and without controls for economic status in this investigation. Data were obtained from the Texas Education Agency Public Education Information Management System for the 2003-2004 through the 2007-2008 school years. Statistically significant differences were revealed in reading, mathematics, and science test scores as a function of student mobility, both when controlling for and not controlling for economic status. Mobile students had statistically significantly lower reading and mathematics test scores than did non-mobile students for all 6 school years. Science scores were statistically significantly lower for all three years for which data were available. Implications for policy and practice and suggestions for future research were made.

Keywords: mobility, academic achievement, poverty, grade 8, texas.

I. Introduction

Grade 8 has been the point of transition between high schools and primary schools in the United States since the beginning of urban public education. Encouraged through reform movements during the late 1800s and 1900s, school systems were transitioned to provide students the more rigorous course work of high school earlier. These developments coupled with overcrowding and reforms requiring or encouraging more students to obtain a high school education provoked the creation of Grade 7 to Grade 9 junior high schools. From the 1960s through the 1990s middle school grade configurations (i.e., Grade 6 to Grade 8 or Grade 6 to Grade 9) replaced junior high schools (Clark, Slate, Combs, & Moore, 2014). During the 2013-2014 school year, 379,597 students were enrolled in Grade 8 in Texas. During the same school year, over 67% of campuses serving Grade 8 students ended with Grade 8 (Texas Education Agency, 2014). The predominance of Grade 8 as a gateway grade to high school makes understanding influences on Grade 8 students' academic achievement a high priority.

II. Student Effects of Mobility

Mobility has been indicated as at least a contributing factor to negative academic outcomes (Kerbow, 1995; Lee & Smith, 1999; Rhodes, 2007; Rumberger, Larson, Ream, & Plardy, 1999; Smith, Smith, & Byrk, 1998). Mobile students constantly entering and leaving classrooms have been reported to reduce the pace of the curriculum. These curricular pacing issues, if not addressed, can create difficulties both for mobile and non-mobile students (Rumberger et al., 1999; Thompson, Meyers, & Oshima, 2011). Researchers analyzing the effects of mobility on students have also linked mobility to negative behavior (e.g., Fomby & Senott, 2013; Haynie, South, & Bose, 2006; Simpson & Fowler, 1994) and poor school persistence (e.g., Rumberger & Larson, 1998; South, Haynie, & Bose, 2007). Mobile students also participate in extracurricular activities at a lower rate, according to Scherrer (2013), which has been shown to increase academic achievement, reduce negative behavior, and increase connections to school.

Differential effects of mobility have been documented depending on other characteristics of students. Mobile students with high academic achievement exhibit reduced achievement; however, students who are able to become involved in extra-curricular activities do not experience the decrease in achievement. Students with poor academic achievement at the school they are leaving often see similar results at their new school. Average students tend to experience the greatest reduction in performance when entering a new school (Langenkamp, 2011). It is also possible that the cause of mobility creates differences in student outcomes (Hanushek, Kain, & Rivkin, 2004, 2009).

III. Causes and Prevalence of Mobility

Families in the United States move for a variety of reasons (Ream, 2005; Rumberger, 2003). In Texas during the 2012-2013 school year, over 875,000 students were classified as mobile by Texas Education Agency's (2014) definition (i.e., attended a particular school for less than 83% of the school year). This number includes residential mobility, school encouraged mobility, and parent/student choice mobility. In the United States, Rumberger, (2003) reported that 58% of student mobility is due to residential mobility and 10% is due to school encouraged moves (e.g., expulsion, or placement at an alternative school). Whether the cause

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is parent and student choice, school encouraged, or residential, mobility is related to negative school outcomes (Gruman, Harachi, Abbott, Catalano, & Fleming, 2008; Rumberger, 2003).

Mobility to seek out a better school is a type of parent or student choice caused mobility. However, Hanushek et al. (2004, 2009) illustrated that school improvement only occurred when changing districts. School choice not combined with a residence change is regularly only allowed within a district. School encouraged moves, generally associated with poor behavior, may be initiated with the intention of eliminating problems, but may have negative long term effects (Fomby & Sennott, 2013). Residential mobility sometimes is able to be delayed and sometimes not able to be delayed. In situations where mobility is unavoidable some schools have instituted policies and procedures to mitigate the negative effects of mobility. Other schools have instituted programs to discourage mobility (Rumberger; 2003) in some ways extending homeless students supports to mobile students. Both approaches to solutions for mobility have been shown to be successful.

IV. Solutions for Mobility

Residential mobility that is unavoidable is a regular occurrence in the military community. The Department of Defense Education Activity, which administers schools on military bases, has developed several programs designed to alleviate the known negative effects of mobility (Smearkar & Owens, 2003). School districts in areas where mobility is also common have also instituted similar programs, as well as programs to discourage mobility when possible (Franke, Isken, & Para, 2003). Policies and programs can and have been implemented to assist populations known to experience high mobility (Branz-Spall, Rosenthal, & Wright, 2003; Rhodes, 2007).

The Department of Defense Education Activity administers schools on U.S. military bases around the world. As military connected families are transferred from base to base, often their children are subjected to unavoidable residential mobility mid-school year (Smearkar & Owens, 2003). As a result of this frequent mobility, these schools have adapted several best practices for mitigating the negative effects of student mobility. Schools on all military bases maintain an aligned curriculum so that students transferring midyear do not experience any larger gaps than necessary (Smearkar & Owens, 2003). Records transfer is expedited to ensure students can be immediately placed in appropriate programs. This student information is also shared with off base schools in the area where military connected families may also reside. Department of Defense Education Activity schools maintain a small size and experienced staff to meet students' needs more appropriately. Students already attending the schools are also used as ambassadors to incoming students to assist in social acclimation at the new school (Smearkar & Owens, 2003; Summers & Moehnke, 2006).

Where military mobility is unavoidable, other residential mobility may be either avoidable or possibly delayed until summer break. Schools where student mobility has been identified as an issue have instituted programs to inform parents of the negative effects of mid-school year mobility (Franke et al., 2003). Programs providing access to medical services, summer nutrition, and summer activities foster a greater connection to schools. Families who feel a stronger connection to their school are more likely to avoid a move if possible (Franke et al., 2003). School districts with identified mobility issues have implemented policies allowing students to attend the school they began the year in even if a residential change has occurred that would otherwise require a school change. Some districts have included transportation provisions in their policies to increase the attractiveness of staying at one school for an entire year despite a residence change (James & Lopez, 2003).

Federal and state policies have been implemented to assist mobile students as well. The McKinney-Vento Homeless Education Improvements Assistance Act of 2001 requires schools to allow students experiencing homelessness to remain in the school they began the school year in, or attend a school even if they do not have permanent residence within that school's established attendance zone (Julianelle & Foscarinis, 2003; Pavlakas, 2014). Federal programs have also provided funds for technology to assist migrant students in receiving a continuous educational experience during their mobility (Branz-Spall et al., 2003).

V. Purpose of the Study

The purpose of this study was to investigate the connection between student mobility (i.e., enrollment in a particular school less than 83% of the school year) and academic achievement (i.e., Texas Assessment of Knowledge and Skills raw scores) for Grade 8 students in Texas while controlling for economic status. Economic status was measured by eligibility for the federal free and reduced lunch program. Six years of Texas statewide data were analyzed for reading and mathematics and three years of data were analyzed for science to ascertain the degree to which trends might be present in student performance.

VI. Significance of the Study

Researchers (e.g., Heinlein & Shinn, 2000; Kain & O'Brien, 1998) who have considered the effects of mobility have not generated a clear consensus on the

effects of mobility when controlling for other variables. The differences in the outcomes of research efforts are contributed to by difficulty in obtaining samples large enough to produce statistical significance or data sources rich enough to include information regarding confounding variables. Data utilized in this study were obtained from the Texas Education Agency Public Education Information Management System. This data source contained information for all students who took the Texas Assessment of Knowledge and Skills Reading, Mathematics, and Science tests in Grade 8 in Texas from school year 2002-2003 to school year 2007-2008. Data regarding student economic status were also available through this data source.

VII. STATEMENT OF THE PROBLEM

Mobility is measured in different ways throughout the research base. The lack of consistency in defining mobility along with the difficulty of tracking mobile students outside of a local education agency contributes to lack of consensus on the effects of mobility. Consistently, however, mobility is linked to negative school outcomes (Haynie et al., 2006; Kerbow, 1995; Rumberger, 2003; Simpson & Fowler, 1994). For the purposes of this study, the definition of mobility by the Texas Education Agency (2012) was used: a student's enrollment in one school for less than 83% of the school year. Negative school outcomes, regardless of the definition used, may have been related to inconsistency in curriculum between the sending and receiving school (Smith, Fein, & Paine, 2008). Students selecting new peer groups contribute to negative social behaviors after a move (Haynie et al., 2006). Changing schools could have also caused difficulty for students creating connections to their new school (Kerbow, Azcoita, & Buell, 2003).

These various difficulties may have either been the cause or effect of mobility. Researchers (e.g., Heinlein & Shinn, 2000) who have undertaken studies regarding mobility have often utilized sample sizes that are not adequate to identify confounding variables and large enough to produce statistical significance. Data collected for this study provided a sufficiently large sample size such that the issues of power and confounding variables (i.e., prior academic achievement, and economic status) were addressed.

VIII. RESEARCH QUESTIONS

The research questions addressed in this study were organized according to the three subjects assessed in Texas at Grade 8. The research questions concerning reading were: (a) What is the relationship of student mobility to Grade 8 reading achievement when controlling for economic status?; and (b) What is the relationship of student mobility to Grade 8 reading achievement when not controlling for economic status?

Research questions regarding mathematics were: (a) What is the relationship of student mobility to Grade 8 mathematics achievement when controlling for economic status?; and (b) What is the relationship of student mobility to Grade 8 mathematics achievement when not controlling for economic status? Research questions involving science were: (a) What is the relationship of student mobility to Grade 8 science achievement when controlling for economic status?; and (b) What is the relationship of student mobility to Grade 8 science achievement when not controlling for economic status? These research questions were repeated for each school year of data analyzed.

IX. METHOD

a) Research Design

A non-experimental research design (Johnson & Christensen, 2008) was used for this study because of the use of archival data. The independent variable, mobility, had already occurred; therefore random group assignment was not possible. The independent variable of mobility as defined by the Texas Education Agency (i.e., enrollment in a particular school for less than 83% of the school year) was used as a control variable for three dependent variables in this study. The dependent variables in this study were represented by three measures of academic achievement (i.e., reading, mathematics, and science) assessed in Grade 8 in Texas. Achievement levels in each of these areas were measured by the raw score on the respective Grade 8 subject area subtest of the Texas Assessment of Knowledge and Skills. Student economic status, measured by eligibility for the federal free and reduced lunch program, was utilized as a control variable.

b) Participants and Instrumentation

In this study data from the Texas Education Agency Public Education Information Management System were analyzed to investigate differences in the academic achievement of mobile and non-mobile students in Grade 8 in Texas. All students who took the Texas Assessment of Knowledge and Skills Reading, or Mathematics test in Grade 8 in school years 2002-2003 to 2007-2008 and students who took the Science assessment in Grade 8 in the 2005-2006 school year, Grade 8 in the 2006-2007 school year, Grade 8 in the 2007-2008 school year were included in this study. These groups of students included over 300,000 students for each school year.

Raw scores for the Grade 8 Texas Assessment of Knowledge and Skills tests administered in 2003, 2004, 2005, 2006, 2007, and 2008 were utilized as the dependent variables. Readers can review specific score validity and score reliability data in the specific technical manuals available through a Public Information Request to the Texas Education Agency.

c) Data Analysis

Research questions in which economic status (i.e., the a research question) were controlled for were analyzed using Multivariate Analysis of Covariance (MANCOVA) statistical procedures. Prior to conducting any MANCOVA procedures, its underlying assumptions of data normality and homogeneity of covariance were determined. An underlying assumption of homogeneity of regression slopes also had to be checked prior to considering the MANCOVA analysis.

Research questions in which economic status (i.e., the b research question) were not controlled for were analyzed using a Multivariate Analysis of Variance (MANOVA) statistical procedure. A MANOVA procedure was used due to the multiple dependent variables associated with a single independent variable. The MANOVA procedure has similar underlying assumptions to the MANCOVA procedures. Even if these assumptions were not met, MANOVA procedures are robust enough to provide useful data (Field, 2009).

X. Results

Results of the statistical analysis for Grade 8 mobile and non-mobile students will be reported by TAKS subject area subtest (i.e., Reading, Mathematics, and Science in years available). Results of each test will be reported in chronological order. Research question a for each subject area required a MANCOVA procedure to consider economic status as a covariate and are reported first. Research question b for each subject area required a MANOVA procedure and are discussed second. Data from the TAKS Reading and Mathematics tests for the 2002-2003 through the 2007-2008 school years and the TAKS Science test for the 2005-2006 to 2007-2008 school years were analyzed.

As noted previously, student economic status was used as a covariate in research question a for each subject area. For these research questions, a MANCOVA statistical procedure was calculated for the 2002-2003 school year. A statistically significant difference was yielded on student overall achievement, Wilks' Λ = 1.0, p< .001, partial η^2 = .002, trivial effect size, as a function of student mobility, and as a function of student poverty, Wilks' Λ = .86, p< .001, partial η^2 = .14, large effect size (Cohen, 1988). Readers should note the strong influence of poverty on student achievement in this analysis. A statistically significant difference was present between the covariate of economic status and TAKS Reading scores, F(1, 217514) = 2608.54, p< .001, r = .33; and between the covariate of economic status and TAKS Mathematics scores, F(1, 217514) = 29944.78, p< .001, r = .35. After controlling for the effect of economic status, a statistically significant effect of mobility was present for the TAKS Reading scores, F(1, 217514) = 308.01, p< .001, partial η^2 = .001 and TAKS Mathematics scores, F(1, 217514) = 355.64, p< .001, partial η^2 = .002.

The MANOVA completed for research question b for each subject area revealed a statistically significant difference between mobile and non-mobile Grade 7 students in their overall achievement, Wilks' Λ = 1.0, p< .001, partial η^2 = .003, trivial effect size (Cohen, 1988). Follow-up Analysis of Variance (ANOVA) procedures also yielded statistically significant differences between mobile and non-mobile Grade 8 students in their TAKS Reading performance, F(1, 218067) = 494.63, p< .001, partial η^2 = .002 and in their TAKS Mathematics performance, F(1, 218067) = 563.02, p< .001, partial η^2 = .003.

Non-mobile students had higher average TAKS Reading and Mathematics test scores in the 2002-2003 school year than their mobile counterparts. These results remained even when controlling for economic status. Cohen's d indicated a small effect size for both reading (i.e., 0.31) and mathematics (i.e., 0.35; Cohen, 1988). The average TAKS Reading test raw score for mobile students was 2.55 points lower than the average TAKS Reading test raw score for non-mobile students. With respect to the TAKS Mathematics exam, the average raw score for mobile students was 3.23 points lower than the average raw score for non-mobile students. Delineated in Table 1 are the descriptive statistics for Grade 7 TAKS Reading, and Mathematics scores by mobility and economic status for the 2002-2003 school year.

Table 1: Descriptive Statistics for Grade 8 TAKS Reading and Mathematics Tests for Mobile and Non-Mobile Students for the 2002-2003 School Year

TAKS Test by Mobility Status	n	M	SD
Non Mobile	213,425		
Mobile	4,642	36.59	8.92
Mathematics			
Non-Mobile	213,425	30.95	9.18
Mobile	4,642	27.72	9.04

As noted previously, student economic status was used as a covariate in research question a for each subject area for the 2003-2004 school year. For these research questions, a MANCOVA statistical procedure was calculated. A statistically significant difference was yielded on student overall achievement, Wilks' Λ = 1.0,

$p <$ .001, partial $\eta^2 =$ .003, trivial effect size, as a function of student mobility, and as a function of student poverty, Wilks' $\Lambda =$ .86, $p <$ .001, partial $\eta^2 =$ .14, large effect size (Cohen, 1988). Similar to the previous year, poverty had a large influence on student achievement. A statistically significant difference was present between the covariate of economic status and TAKS Reading scores, $F(1, 227868) = 29078.16$, $p <$ .001, $r =$ .34; and TAKS Mathematics scores, $F(1, 227868) = 31168.64$, $p <$ .001, $r =$ .35. After controlling for the effect of economic status, a statistically significant effect of mobility was still present for TAKS Reading scores, $F(1,227868) = 477.67$, $p <$ .001, partial $\eta^2 =$ .002 and for TAKS Mathematics scores, $F(1, 227868) = 741.80$, $p <$ .001, partial $\eta^2 =$ .003.

With respect to research question b for each subject area, the MANOVA revealed a statistically significant difference between mobile and non-mobile Grade 8 students in their overall achievement, Wilks' Λ = 1.0, $p <$ .001, partial $\eta^2 =$ .005, trivial effect size (Cohen, 1988). Follow-up ANOVA procedures also yielded statistically significant differences between mobile and non-mobile Grade 8 students in their TAKS Reading performance, $F(1, 227875) = 838.28$, $p <$ .001, partial $\eta^2 =$ .004 and in their TAKS Mathematics performance, $F(1, 227875) = 1169.33$, $p <$ .001, partial $\eta^2 =$ .005.

Similar to the previous year, non-mobile students had higher average TAKS Reading and Mathematics test scores in 2004 than their mobile counterparts. These results remained even when controlling for economic status. Cohen's d indicated a small effect size for both reading (i.e., 0.38) and mathematics (i.e., 0.49; Cohen, 1988). The average TAKS Reading test raw score for mobile students was 2.69 points lower than the average TAKS Reading test raw score for non-mobile students. Regarding the TAKS Mathematics exam, the average raw score for mobile students was 4.84 points lower than the average raw score for non-mobile students. Delineated in Table 2 are the descriptive statistics for Grade 8 TAKS Reading and Mathematics scores by mobility and economic status for the 2003-2004 school year.

Table 2: Descriptive Statistics for Grade 8 TAKS Reading and Mathematics Tests for Mobile and Non-Mobile Students for the 2003-2004 School Year

TAKS Test by Mobility Status	n	M	SD
Reading			
Non-Mobile	222,885	39.80	6.46
Mobile	4,983	37.11	7.71
Mathematics			
Non-Mobile	222,885	33.10	9.90
Mobile	4,983	28.26	9.81

Concerning the 2004-2005 school year, student economic status was used as a covariate in research questions a for each subject area. For these research questions, a MANCOVA statistical procedure was calculated. A statistically significant difference was yielded on student overall achievement, Wilks' Λ = 1.0, $p <$ .001, partial $\eta^2 =$ .004, trivial effect size, as a function of student mobility, and as a function of student poverty, Wilks' $\Lambda =$ .86, $p <$ .001, partial $\eta^2 =$ .14, large effect size (Cohen, 1988). Congruent with the previous two years, poverty had a large influence on student achievement. A statistically significant difference was present between the covariate of economic status and TAKS Reading scores, $F(1, 231858) = 297030.58$, $p <$ .001, $r =$ .34; and for TAKS Mathematics scores, $F(1, 231858) = 31237.98$, $p <$ .001, $r =$ .35. After controlling for the effect of economic status, a statistically significant effect of mobility was present for the TAKS reading scores, $F(1, 231858) = 704.44$, $p <$ .001, partial $\eta^2 =$ .003 and for TAKS Mathematics scores, $F(1, 231858) = 785.42$, $p <$ .001, partial $\eta^2 =$ .003.

For research question b for each subject area, the MANOVA revealed a statistically significant difference between mobile and non-mobile Grade 8 students in their overall achievement, Wilks' Λ = 0.99, $p <$ .001, partial $\eta^2 =$ .006, trivial effect size (Cohen, 1988).. Follow-up ANOVA procedures also yielded statistically significant differences between mobile and non-mobile Grade 8 students in their TAKS Reading performance, $F(1, 231982) = 1052.44$, $p <$ .001, partial $\eta^2 =$ .005 and in their TAKS Mathematics performance, $F(1, 231982) = 1149.79$, $p <$ .001, partial $\eta^2 =$ .005.

Similar to the two previous years, non-mobile students had higher average TAKS Reading and Mathematics test scores in the 2004-2005 school year than their mobile counterparts. These results remained even when controlling for economic status. Cohen's d indicated a small effect size for both reading (i.e., 0.40) and mathematics (i.e., 0.48; Cohen, 1988). The average TAKS Reading test raw score for mobile students was 3.45 points lower than the average TAKS Reading test raw score for non-mobile students. Concerning the TAKS Mathematics exam, the average raw score for mobile students was 4.72 points lower than the average raw score for non-mobile students. Revealed in Table 3 are the descriptive statistics for Grade 8 TAKS Reading and Mathematics scores by mobility and economic status for the 2004-2005 school year.

Table 3: Descriptive Statistics for Grade 8TAKS Reading and Mathematics Tests for Mobile and Non-Mobile Students for the 2004-2005 School Year

TAKS Test by Mobility Status	n	M	SD
Reading			
Non-Mobile	226,767	40.71	7.50
Mobile	5,091	37.26	9.46
Mathematics			
Non-Mobile	226,767	33.02	9.86
	5,091	28.30	10.09

With respect to research question a for each subject area for the 2005-2006 school year, as noted previously, student economic status was used as a covariate in research questions a for each subject area. For these research questions, a MANCOVA statistical procedure was calculated. A statistically significant difference was yielded on student overall achievement, Wilks' $\Lambda = 0.99$, $p< .001$, partial $\eta^2 = .006$, trivial effect size, as a function of student mobility, and as a function of student poverty, Wilks' $\Lambda = .83$, $p< .001$, partial $\eta^2 = .17$, large effect size (Cohen, 1988). Congruent with the previous three years, poverty had a large influence on student achievement. A statistically significant difference was present between the covariate of economic status and TAKS Reading scores, $F(1, 234319) = 30150.94$, $p< .001$, $r = .34$; TAKS Mathematics scores, $F(1, 234319) = 29978.00$, $p< .001$, $r = .35$; and TAKS Science scores, $F(1, 234319) = 45825.16$, $p< .001$, $r = .41$. After controlling for the effect of economic status, a statistically significant effect of mobility remained for the TAKS Reading scores, $F(1, 234319) = 842.44$, $p< .001$, partial $\eta^2 = .004$; TAKS Mathematics scores, $F(1, 234319) = 1275.42$, $p< .001$, partial $\eta^2 = .005$; and for the TAKS Science scores, $F(1, 234319) = 978.98$, $p< .001$, partial $\eta^2 = .004$.

For research question b for each subject area, the MANOVA revealed a statistically significant difference between mobile and non-mobile Grade 8 students in their overall achievement, Wilks' $\Lambda = .99$, $p< .001$, partial $\eta^2 = .008$, trivial effect size (Cohen, 1988).

Follow-up ANOVA procedures also yielded statistically significant differences between mobile and non-mobile Grade 8 students in their TAKS Reading performance, $F(1, 234325) = 1266.28$, $p< .001$, partial $\eta^2 = .005$; in their TAKS Mathematics performance, $F(1, 234325) = 1760.66$, $p< .001$, partial $\eta^2 = .007$; and in their TAKS Science performance, $F(1, 234325) = 1486.38$, $p< .001$, partial $\eta^2 = .006$.

Similar to the previous three years, non-mobile students had higher average TAKS Reading and Mathematics scores, and also TAKS Science test scores in the 2005-2006 school year than their mobile counterparts. These results remained even when controlling for economic status. Cohen's *d* indicated a small effect size for reading (i.e., 0.44) and a moderate effect size for mathematics (i.e., 0.68) and science (i.e., 0.54; Cohen, 1988). The average TAKS Reading test raw score for mobile students was 3.69 points lower than the average TAKS Reading test raw score for non-mobile students. Regarding the TAKS Mathematics exam, the average raw score for mobile students was 5.63 points lower than the average raw score for non-mobile students. Concerning the TAKS Science exam, the average raw score for mobile students was 5.02 points lower than the average raw score for non-mobile students. Revealed in Table 4 are the descriptive statistics for Grade 8 TAKS Reading, Mathematics, Science scores by mobility and economic status for the 2005-2006 school year.

Table 4: Descriptive Statistics for Grade 8TAKS Reading, Mathematics, and Science Tests for Mobile and Non-Mobile Students for the 2005-2006 School Year

TAKS Test by Mobility Status	n	M	SD
Reading			
Non-Mobile	229,190	40.65	7.31
Mobile	5,129	36.96	9.17
Mathematics			
Non-Mobile	229,190	33.02	9.86
Mobile	5,129	28.30	10.09
Science			
Non-Mobile	229,190	33.02	9.22
Mobile	5,129	28.00	9.46

Regarding the 2006-2007 school year, as noted previously, student economic status was used as a covariate in research question a for each subject area. For these research questions, a MANCOVA statistical procedure was calculated. A statistically significant

difference was yielded on student overall achievement, Wilks' $\Lambda = 1.0$, $p< .001$, partial $\eta^2 = .005$, trivial effect size, as a function of student mobility, and as a function of student poverty, Wilks' $\Lambda = .84$, $p< .001$, partial $\eta^2 = .17$, large effect size (Cohen, 1988). Congruent with the

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previous four years, poverty had a large influence on student achievement. A statistically significant difference was present between the covariate of economic status and TAKS Reading scores, $F(1, 237335) = 26235.44$, $p< .001$, $r = .32$; TAKS Mathematics scores, $F(1, 237335) = 28061.39$, $p< .001$, $r = .33$; and TAKS Science scores, $F(1, 237335) = 45999.49$, $p< .001$, $r = .41$. After controlling for the effect of economic status, a statistically significant effect of mobility was present for the TAKS Reading scores, $F(1, 237355) = 555.82$, $p< .001$, partial $\eta^2 = .002$; TAKS Mathematics scores, $F(1, 237355 = 1149.29$, $p< .001$, partial $\eta^2 = .005$; and TAKS Science scores, $F(1, 237335) = 893.47$, $p< .001$, partial $\eta^2 = .004$.

For research question b for each subject area, the MANOVA revealed a statistically significant difference between mobile and non-mobile Grade 8 students in their overall achievement, Wilks' $\Lambda = 0.99$, $p< .001$, partial $\eta^2 = .007$, trivial effect size. Follow-up ANOVA procedures also yielded statistically significant differences between mobile and non-mobile Grade 8 students in their TAKS Reading performance, $F(1, 237408) = 854.11$, $p< .001$, partial $\eta^2 = .004$; in their TAKS Mathematics performance, $F(1, 237408) =$ 1532.79, $p< .001$, partial $\eta^2 = .006$; and in their TAKS Science performance, $F(1, 237408) = 1302.04$, $p< .001$, partial $\eta^2 = .005$.

Similar to the previous four years, non-mobile students had higher average TAKS Reading and Mathematics test scores, and the previous year Science test scores in the 2006-2007 school year than their mobile counterparts. These results remained even when controlling for economic status. Cohen's d indicated a small effect size for reading (i.e., 0.39) and a moderate effect size for mathematics (i.e., 0.58) and science (i.e., 0.54; Cohen, 1988). The average TAKS Reading test raw score for mobile students was 2.8 points lower than the average TAKS Reading test raw score for non-mobile students. Concerning the TAKS Mathematics exam, the average raw score for mobile students was 5.35 points lower than the average raw score for non-mobile students. Regarding the TAKS Science exam, the average raw score for mobile students was 4.83 points lower than the average raw score for non-mobile students. Delineated in Table 5 are the descriptive statistics for Grade 8 TAKS Reading, Mathematics, and Science scores by mobility and economic status for the 2006-2007 school year.

Table 5: Descriptive Statistics for Grade 8 TAKS Reading, Mathematics, and Science Tests for Mobile and Non-Mobile Students for the 2006-2007 School Year

TAKS Test by Mobility Status	n	M	SD
Reading			
Non-Mobile	232,872	41.09	6.30
Mobile	4,463	38.29	7.84
Mathematics			
Non-Mobile	232,872	35.62	9.06
Mobile	4,463	30.27	9.31
Science			
Non-Mobile	232,872	33.92	8.86
Mobile	4,463	29.09	9.07

With respect to the 2007-2008 school year, as noted previously, student economic status was used as a covariate in research question a for each subject area. For these research questions, a MANCOVA statistical procedure was calculated. A statistically significant difference was yielded on student overall achievement, Wilks' $\Lambda = 1.0$, $p< .001$, partial $\eta^2 = .005$, trivial effect size, as a function of student mobility, and as a function of student poverty, Wilks' $\Lambda = .86$, $p< .001$, partial $\eta^2 = .14$, large effect size (Cohen, 1988). Congruent with the previous five years, poverty had a large influence on student achievement. A statistically significant difference was present between the covariate of economic status and TAKS Reading scores, $F(1, 237406) = 26527.78$, $p< .001$, $r = .34$; TAKS Mathematics scores, $F(1, 237406) = 43519.34$, $p< .001$, $r = .34$; and TAKS Science scores, $F(1, 237406) = 43519.34$, $p< .001$, $r = .30$. After controlling for the effect of economic status, a statistically significant effect of mobility remained for the TAKS reading scores, $F(1, 237406) = 658.31$, $p< .001$, partial $\eta^2 = .003$; TAKS Mathematics scores, $F(1, 237406) = 1033.14$, $p< .001$, partial $\eta^2 = .004$; and for the TAKS Science scores, $F(1, 237406) = 954.64$, $p< .001$, partial $\eta^2 = .004$.

For research question b for each subject area, the MANOVA revealed a statistically significant difference between mobile and non-mobile Grade 8 students in their overall achievement, Wilks' $\Lambda = 1.0$, $p< .001$, partial $\eta^2 = .005$, trivial effect size (Cohen, 1988). Follow-up ANOVA procedures also yielded statistically significant differences between mobile and non-mobile Grade 8 students in their TAKS Reading performance, $F(1, 237406) = 737.036$, $p< .001$, partial $\eta^2 = .003$; in their TAKS Mathematics performance, $F(1, 237406) = 1128.06$, $p< .001$, partial $\eta^2 = .005$; and in their TAKS Science performance, $F(1, 237406) = 1053.31$, $p< .001$, partial $\eta^2 = .004$.

Similar to the previous five years, non-mobile students had higher average TAKS Reading, Mathematics, and Science test scores in the 2007-2008 school year than their mobile counterparts. These results remained even when controlling for economic status. Cohen's *d* indicated a small effect size for reading (i.e., 0.39) and a moderate effect size for mathematics (i.e., 0.53) and science (i.e., 0.51; Cohen, 1988). The average TAKS Reading test raw score for mobile students was 2.43 points lower than the average

TAKS Reading test raw score for non-mobile students. Concerning the TAKS Mathematics exam, the average raw score for mobile students was 4.85 points lower than the average raw score for non-mobile students. Regarding the TAKS Science exam, the average raw score for mobile students was 4.65 points lower than the average raw score for non-mobile students. Table 6 contains the descriptive statistics for Grade 8 TAKS Reading, Mathematics, and Science scores by mobility and economic status for the 2007-2008 school year.

Table 6: Descriptive Statistics for Grade 8 TAKS Reading, Mathematics, and Science Tests for Mobile and Non-Mobile Students for the 2007-2008 School Year

TAKS Test by Mobility Status	n	M	SD
Reading			
Non-Mobile	233,633	42.56	5.43
Mobile	3,773	40.13	6.95
Mathematics			
Non-Mobile	233,633	37.17	8.79
Mobile	3,773	32.32	9.60
Science			
Non-Mobile	233,633	36.46	8.72
Mobile	3,773	31.81	9.38

XI. Discussion

The relationship between mobility and academic achievement in reading, mathematics, and science was considered for Grade 8 students both with and without controlling for student economic status. Data from the 2002-2003 to 2007-2008 were analyzed for reading and mathematics achievement and data from the 2005-2006 to 2007-2008 school years were analyzed for science achievement. All data were obtained from the Texas Education Agency Public Education Information Management System for all Texas Grade 8 students who were in an accountability subset for a campus or district. Statistically significant results were present for each school year and subject considered both when controlling for economic status

and not controlling for economic status. Trends for each subject area were determined following the statistical analysis.

Non-mobile students had higher average performance on TAKS Reading than mobile students in all school years analyzed herein. Average reading scores differed between the two groups by as much as 15.84 points and as little as 2.43 points. Cohen's *d* was calculated for each year to evaluate the relative difference between the two groups across school years. These values are delineated in Table 7 and range from a high of 0.93 to a low of 0.31. As such these effect sizes were in the small to large range. Effect sizes below 0.50 were small, effect sizes between 0.51 and 0.79 were moderate, and the effect size values at 0.80 or above were large (Cohen, 1988).

Table 7: Cohen's ds for Grade 8 TAKS Reading Differences Between Mobile and Non-Mobile Students for the 2002-2003 Through the 2007-2008 School Years

School Year	d	Effect Size Range	Lowest Performing Group
2002-2003	0.31	Small	Mobile
2003-2004	0.38	Small	Mobile
2004-2005	0.40	Small	Mobile
2005-2006	0.44	Small	Mobile
2006-2007	0.39	Small	Mobile
2007-2008	0.39	Small	Mobile

Differences in the mobile and non-mobile groups' average scores were larger for the TAKS Mathematics test. Non-mobile students had a higher average performance on the TAKS Mathematics test than mobile students in each school year. Average mathematics scores differed between the two groups by as much as 14.47 points and as little as 4.85 points. 0.50 and 0.79 were moderate, and the effect size values

Cohen's *d* was calculated for each year to evaluate the relative difference between the two groups across school years. These values are delineated in Table 8 and range from a high of 0.97 to a low of 0.35. As such these effect sizes were in the small to large range. Effect sizes below 0.50 were small, effect sizes between at 0.80 or above were large (Cohen, 1988).

Table 8: Cohen's ds for Grade 8 TAKS Mathematics Differences Between Mobile and Non-Mobile Students for the 2002-2003 Through the 2007-2008 School Years

School Year	d	Effect Size Range	Lowest Performing Group
2003-2004	0.49	Small	Mobile
2004-2005	0.48	Small	Mobile
2005-2006	0.68	Moderate	Mobile
2006-2007	0.58	Moderate	Mobile
2007-2008	0.53	Moderate	

Differences in the mobile and non-mobile groups' average scores were larger for the TAKS Science test than the TAKS Mathematics test but larger than the TAKS Reading test. Non-mobile students had higher average performance on the TAKS Science test than mobile students in each school year. Average science scores differed between the two groups by as much as 11.81 points and as little as 4.65 points.

Cohen's *d* was calculated for each year to evaluate the relative difference between the two groups across school years. These values are delineated in Table 9 and range from a high of 0.92 to a low of 0.54. As such these effect sizes were in the moderate to large range. Effect sizes below 0.80 were moderate whereas the effect size values at 0.80 or above were large (Cohen, 1988).

Table 9: Cohen's ds for Grade 8 TAKS Science Differences Between Mobile and Non-Mobile Students for the 2002 2003 Through the 2007 2008 School Years

School Year	d	Effect Size Range	Lowest Performing Group
2005-2006	0.54	Moderate	Mobile
2006-2007	0.54	Moderate	Mobile
2007 2008	0.51	Moderate	Mobile

a) Implications for Policy and Practice

Campus and district accountability in Texas is determined based on the accountability subset. To be included in this group of students a student must be enrolled at a campus on the last Friday in October (i.e., Snapshot Day) and take the state standardized test (i.e., formerly the TAKS and now the State of Texas Assessment of Academic Readiness) on the same campus (Texas Education Agency, 2012). These parameters prevent the most mobile students from negatively influencing the campus accountability; however the most mobile students are also missing from this data set. Therefore a campus and district accountability set may include some mobile students but not the most mobile students.

The parameters of the accountability subset and the definition of a mobile student according to the Texas Education Agency (2012) definition create two subsets of mobile students. The first subset are those

students who are mobile and included in an accountability subset, and the second is students who are mobile and not included in the accountability subset. In this separation of mobile students protects schools from the negative effects of mobility while excluding the most mobile students from the schools accountability. The presence of a statistically significant difference between mobile and non-mobile students but with small effect sizes when considering a data set that includes very few students not in an accountability subset indicates that Texas measures to protect schools from the negative effects of mobility have been successful. Numbers of students included in this study and included in an accountability subset or not is delineated in Table 10. However, the unintended consequences of accountability systems (Scherrer, 2013) may be that the most mobile students are excluded from needed interventions.

Table10: Sample Group Sizes for Grade 8 IncludedStudents

Year	Total Cases In Data Set	Included			
		Mobile		Not-Mobile	
		Accountability Subset	Non Accountability Subset	Accountability Subset	Non Accountability Subset
2003	304,906	4,507	135	213,409	16
2004	315,542	4,899	86	222,880	10
2005	320,637	4,968	132	226,876	6

2006	327,993	4,998	136	229,178	13
2007	331,203	4,379	91	232,931	7
2008	336,287	3,732	41	233,630	3

b) Connections with Existing Literature

The existing literature supports the results of this study indicating mobile students exhibit lower academic achievement than non-mobile students when controlling for and not controlling for economic status (e.g., Boroque, 2009; Bruno & Isken, 1996; Kerbow, 1995; Lovell & Isaacs, 2008; Reynolds, Chen, & Herbers, 2009; Scherrer, 2013). Conclusions in this study that the most mobile students are often excluded from data sets are congruent with previously produced research. Previous conclusions that the most mobile students are excluded from accountability subsets and therefore may be excluded from needed interventions have also been supported by this study.

The definition of mobility and the parameters of accountability subsets in Texas have created different classes of student mobility. Previous researchers (e.g., Scherrer, 2013) have also concluded that not all mobile students exhibit the same effects of mobility. Students who experience more mobility experience greater negative effects. Scarce resources require school officials to provide the most interventions for students who they will be held accountable for (Scherrer, 2013).

c) Recommendations for Future Research

Represented in Table 11 are students who were enrolled in Texas schools during the years of data analyzed in this study who were not included in the study due to missing scores. Mobile students were most frequently excluded from the study and were most frequently not included in accountability subsets. Research on students not included in accountability subsets would provide needed insight into the relationship between mobility and academic achievement.

Research considering prior academic achievement of mobile students would also be a valuable addition to the knowledge base. Improvements in tracking students across moves and years could have led to improvements in the data set. A more recent data set may be able to provide this added control variable. Other control variables such as gender and ethnicity could also be quality additions to the research base. Finally, research investigations into other middle grade levels (i.e., Grade 6 and Grade 7) would contribute to an understanding of the prevalence of negative effects of mobility.

XII. SUMMARY

The effect of mobility on students' academic achievement and the relationship between mobility and economic disadvantage has been frequently debated. Texas has implemented measures to reduce the negative effects of mobile students on schools accountability. However, these measures have also removed many students most in need of assistance from schools accountability. In this multiyear, empirical investigation, most Grade 8 students excluded from the accountability subsets were not part of the statistical analyses. Of the subset of Grade 8 mobile students who were part of this study, they had lower academic achievement in reading, mathematics, and science than did their non-mobile peers. In all analyses, economic status had the strongest influence on Grade 8 student academic achievement. After controlling for the effects of poverty, however, mobility itself continued to have a statistically significant effect on Grade 8 student academic achievement.

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Table 11: Sample Group Sizes for Grade 8 Not Included Students

Year	Total Cases in Data Set	Not Included Mobile		Not-Mobile	
		Accountability Subset	Non Accountability Subset	Accountability Subset	Non Accountability Subset
2003	304,906	3,441	14,232	68,673	493
2004	315,542	3,472	14,072	69,699	424
2005	320,637	3,585	14,457	70,192	421
2006	327,993	3,831	15,942	73,466	429
2007	331,203	3,486	15,298	74,620	391
2008	336,287	4,456	22,276	71,475	674

Implementation of the Incredible Years Teacher Classroom Manage-ment Program (TCM) in Primary Schools in Saudi Arabia

By Abdullah Aladsani

The University of Manchester

Introduction- This is a pilot study to inform the main study. In the main study I intend to implement the Incredible Years Teacher Classroom Management program (TCM) in primary schools in Saudi Arabia then evaluate it. I intend to deliver the program to the teachers then observe them and interview them to explore to what extent the program improve their ability to manage students' behaviors and what are their opinions about the program. The pilot study will be involved with developing the research instruments needed and identifying changes needed to the design.

GJHSS-G Classification: *FOR Code: 339999p*

IMPLEMENTATIONOFTHEINCREDIBLEYEARSTEACHERCLASSROOMMANAGEMENTPROGRAMTCMINPRIMARYSCHOOLSINSAUDIARABIA

Strictly as per the compliance and regulations of:

Implementation of the Incredible Years Teacher Classroom Management Program (TCM) in Primary Schools in Saudi Arabia

Abdullah Aladsani

I. Introduction

This is a pilot study to inform the main study. In the main study I intend to implement the Incredible Years Teacher Classroom Management program (TCM) in primary schools in Saudi Arabia then evaluate it. I intend to deliver the program to the teachers then observe them and interview them to explore to what extent the program improve their ability to manage students' behaviors and what are their opinions about the program. The pilot study will be involved with developing the research instruments needed and identifying changes needed to the design.

II. Background

Classroom management is considered as one of the most important factors which help to facilitate the process of teaching and learning in order to be successful. Many studies illustrate that a teacher's style of classroom management is one of the most influential factors that help students to achieve high grades and to improve their academic achievements (Marzano and Marzano, 2003) and (Djigić and Stojiljković, 2012). It is mentioned by Martin (2004) that student skills such as following instructions, communicating and conflict management are improved as a result of effective classroom management. A mismanaged and chaotic classroom will have a negative effect on the student and cause problems with regard to his/her learning.

Thus, to provide an effective classroom management strategy is a very important requirement which has to be considered in particular in places which are suffering from numerous educational problems. In Saudi Arabia for example, there is concern about the quality of education in general and in primary school in particular. Kanalan and Celep (2011) claim that education in Saudi Arabia and other Arabic countries is behind other regions according to the world standards. As a result of the absence of balance and checks, the Saudi educational system reached to this situation (Al Sadaawi, 2010).

These problems in Saudi educational system has a significant negative impact on students. For example, in 2003 the international test of mathematics and science achievement showed an unwelcome results in the ranking compared to participating countries (Al Sadaawi, 2010). Regardless the academic skills, a study of students behavioral problems in Saudi Arabia shows that students in primary schools are suffering from numerous problems including lying, stealing and aggressive behavior (Alfrayan, 2001).

Although this described situation includes male and female schools, in the male schools the problems seems to be more difficult. Basyouni and Chahine (2011) found that Saudi preschoolers expect physical punishment when they behave badly or disobey and this punishment is associated with male more than female. Furthermore, AlBuhairan et al. (2011) revealed that about 33% of Saudi school professionals have low-level of awareness of child maltreatment and male school professionals are more likely to have lower level. The lack of awareness of child right and teacher's concepts towered educating children might encourage teachers to deal with students' misbehavior in inappropriate or even illegal way in particular if they do not have classroom management skills.

Thus, it is important to assess and to improve teachers classroom management skills in Saudi Arabia. Many studies illustrate that teachers have medium level of classroom management skills(Aldossari, 2013, AlMaliki, 2009, Anowasir, 1999, korashi, 2008). On the other hand, AlMaliki (2009) found through observations of 96 teachers in Saudi Arabia that about nine techniques have been applied by teachers with low level such as the usage of interesting and attractive teaching methods, the usage of motivational methods and behavior monitoring tools. Aldossari (2013) adds that teachers are more likely not to be proactive teachers and they often do not try to solve problems before they happen.

However, it is not fair to blame teachers about this situation while many factors hinder them to implement their skills with regard to classroom management. Physical issues such as size of class, number of students and lack of equipment are considered as barriers of teaching and learning in general and classroom management in particular. In Saudi Arabia, due to high growth rates in population and lack of balance, the ministry of education is still renting private houses and residences to be used as schools (Al Sadaawi, 2010).Since such schools are intended to be houses, they are often not suitable for schooling

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purposes as they miss well equipped classrooms and other facilities with safety requirements.

The size of classroom and number of students in the class make teaching and learning more difficult and cause numerous problems. Omari and Woodcock (2012) concluded that students were more concern about classroom conditions as they are high density, lack variety, flexibility and confortable temperature and due to these factors they interpret the reason behind students' aggression and noise. Even if teachers attempt to do their best in managing students' behavior, they will be constrained significantly by classroom environment where most building are not supportive and the large number of students which may reach to forty students taught by just one teacher (Aldossari, 2013).

Furthermore, the amount of requirements and lack of time do not allow teachers to practice their skills conveniently. Alsaif (2005) found that the huge amount of tasks including inside classes or outside classes is the most difficult challenges for classroom management. Aldossari (2013) revealed that curriculum is too large to be completed in one school year. As a result, when teachers are facing the challenge of making balance between quality or quantity of learning with regard to completing the curriculum, they often prefer to focus on students' academic skills as they will be asked about them rather than social or emotional skills.

Although all these issues need to be considered and resolved, the development of teachers' skills and concepts seems to be the corner stone. It is true that teachers have been qualified for teaching in their degrees and learnt numerous skills, but when they practice teaching in reality many issues will be raised and the need to improving will become urgent. Therefore, the main role of educational supervisors in Saudi Arabia is to discuss with teachers their issues and concerns with regard to students' achievements attempting to improve their skills and resolve their problems. However, there might be a gap between theory and practice with respect to this point. Alhosaini (2003) illustrates that educational supervisors never contribute or contribute weakly to improve more than 21classroom management skills.

Many studies suggest training in-service as a solution to improve teachers' performance (Aldossari, 2013, AlMaliki, 2009, Alzaidi, 2013). The ministry of education provides many classroom management training programs in difference places but Aldossari (2013) indicates that these training programs do not improve teachers' skills and there is no difference between teachers who attend or not these programs with regard to classroom management. This is perhaps because these programs focus on theoretical aspects more than practical aspects (Alsaif, 2005) and therefore teachers' knowledge and information about classroom management are high while their performance is still in the middle (Alghamdi, 2000).

To run training programs and to spend money generously are not enough to provide high quality of education and reform educational system in one county. Saudi Arabia allocates a great amount of money for education but does not spend it in appropriate and effective way (Kanalan and Celep, 2011). One solution often suggested by researchers and educationalists is to import ideas and programs from developed countries which usually have high quality of education to be applied in developing countries (Aldossari, 2013). However, in order to insure the validity of a program, it is important to provide a suitable environment culturally (Kanalan and Celep, 2011) and physically for it and to consider challenges which may hinder or frustrate the implementation of this program.

One of the most popular and effective program in the recent years is The Incredible Years (IY). Although it was developed in the US, it is provided and used widely in more than twenty countries such as the UK, Australia and Canada. The purpose of the program is to offer cost- effective and early prevention training series that facilitate teachers and parents to enhance social, emotional and academic skills for children and prevent them from conducting problems. The Incredible Years provides numerous programs and workshops for parents such as Baby Parent program and School Age Parent program, and for children such as Child Dinosaur Treatment program and Child Dinosaur Classroom program, as well as for teachers such as Teacher Classroom Management program (TCM).

However, in this study I will just focus on (TCM) attempting to investigate its impact on teachers' skills and children's' behavior. It is a six full days program including six main topics: building positive relationship with students, preventing behavior problems, the importance of teacher attention, motivating children through incentives, decreasing inappropriate behavior, and emotional regulation.

Many studies illustrate that Incredible Years programs have helped teachers to develop their management skills and improve children's social, emotional and academic skills and reduce their misbehavior (Martin, 2009). However, through looking at the countries that adopted this program we may find the majority of them considered as developed countries and there are no Arabic countries. It is clear that culture play a significant role in classroom management strategies and what is considered an acceptable behavior in one place might be unacceptable in another place (Sturz et al., 2005). Therefore, it is not necessary that an effective program in one context still valid and influential in another context.

In the main study I will try to implement and evaluate the program in primary schools in Saudi Arabia as one of developing countries and explore how this program can be adopted and what are the potential challenges it may face. To achieve these goals I may

need to train, observe and interview teachers to see how they manage their classes and to ask them about their opinions towards the program. However, the main purpose of the pilot study is to experience and improve the data collection instruments and further develop of the study by answering these questions:

1. How do teachers use classroom management strategies in Saudi primary school in Manchester?
2. How do students response to teachers' strategies regarding to classroom management?
3. what are participants' views about The Incredible Years Teacher Classroom Management (TCM)?
4. How can (TCM) be adopted in Saudi Arabia in an appropriate way?
5. Which factors facilitate or hinder the implementation of (TCM) in primary schools in Saudi Arabia?
6. to what extent the methods of the main study lead to its goals and how can we improve them?

To answer these questions, I have conducted two observations and three semi structured interviews and I will explain the methodology in the following sections:

III. Methodology

Since this study intends to explore the attitudes, opinions and experience of students, a qualitative approach seems to be an appropriate method to generate data (Dawson and Books, 2009) because it provides a deeper understanding of the phenomena. Gray (2013) states that studies that intend to answer "how" questions and to explore one particular case but from various angles should adopt a case study design. This is because a case study method can discover subjects and phenomena but from a more focused range of contexts or people for numerous purposes including evaluation of training programs, the relationship between organisations or departments and implementation using usually multiple sources to collect data. This study is considered as a case study because it aims to explore how teachers employ classroom management strategies in Saudi Primary School in Manchester and how students response to teachers' actions and what are teachers' opinions about (TCM). In order to answer these main questions, I have conducted observations and interviews and I will describe them in detail in the following paragraphs.

IV. Methods

a) Interviews

Gray (2013) has defined interviews as conversations between a person who has the role of a researcher and other people. Since this study intends to explore PhD students and lecturers' opinions and attitudes, interviews are an appropriate method to generate data. Gary (2013) claims that if the objective of research is largely exploratory and involving an

examination of attitudes or feelings, then interviews may be the most logical technique to research. When compared to questionnaire, interviews contain many advantages. Firstly, interviews encourage and motivate people who prefer to talk instead of filling out a questionnaire. Secondly, the meanings of questions in questionnaires are not always clear, while in interviews the meaning could be explained directly. Thirdly, during interviews, researchers can do more than listing answers, such as noting their body language (Gray, 2013).

There are several different interview approaches. However, in this study I have conducted three semi structured interviews as a method that is often used in qualitative research. In semi structured interviews, the interviewer has a number of questions and issues which must be covered regardless of the order of these questions. This kind of interview allows the researcher to probe opinions and views because the key elements of a semi structured interview allows the participant to talk about their attitudes in details and expand on their answers (Gray, 2013).

b) Process of interviews

In order to answer research questions and reach the study objectives, I have conducted three interviews. First interview was with Sara (pseudonym) who was a lecturer working at education department in Manchester University. Second and third interviews were with Ali and Salim (pseudonym) who were teachers in Saudi Arabia but they are doing their PhD in education in Manchester University currently. As the sample of this study consisted of my friends whom I have a good relationship with, I have all their contact details. First step I took when I decided to carry out this research is to contact my friends by phone, individually. In this phone call, I briefly explained to them the purpose of this study and what they are required to do as well as contact the lecturer by email. All three participants agreed to participate in the study.

After taking their preliminary approval for participation, and after gaining the approval from the University, I began to arrange the date and time for the interviews. When a date was agreed I sent them all an email to thank them for accepting to participate and to inform them of the time and venue of the meeting. With respect to the place of the meeting, as they are all working at The University of Manchester and they all have their own offices I preferred to conduct the interviews in their offices in order to make it easy for them which may encourage them to attend the meeting and feel more comfortable.

Before the meeting I prepared the recorder device and brought pens, notebook, the consent form of the interview and the interview sheet. Arriving early before the scheduled time of the meeting is recommended by Gray (2013). Therefore, I came half an

hour before to the University and exactly at the time to their offices. All participants were in their offices and ready to the interview.

Before the beginning of the interview, I thanked them for their participation and illustrated to them again the purpose of this study, the length of the meeting, how data will be analysed and asked them to sign the consent form. After that I took their permission to record the meeting and placed the tape recorder on a suitable place in the room. Each interview lasted approximately forty minutes divided into three main sections. First, the description of (TCM) program which I intend to implement in the main study. In this section I provided in about seven minutes brief description of the program including its main topics, goals and the methods to deliver it. Second, the description of the methodology in the main study including the methods I intends to use which also lasted about seven minutes. Finally, I asked the participants approximately twenty five minutes about their opinions towards the program and how teachers in Saudi Arabia may response to it and about their opinions towards the methodology which I intend to adopt in the main study. Although the whole interview was recorded I was keen to take notes in order to gain the main points which I may need to go back to later in the interview.

The difference between interviews and talking to your colleagues is that interviews are planned in advance (Lowe, 2006). Therefore, in the third section which is considered as the main section, I prepared six questions for the interviews (see appendix 1). The most important and difficult part in an interview is encouraging the interviewees to talk and participate (Corbetta, 2003).Therefore, throughout the interviews I was continuously asking participants to express their ideas in detail. In case I did not understand what they meant due to unclear or contradictory answers, I asked them to repeat their answers again or sometimes rephrase or summarize their opinions and read it to them in order to ensure that my understanding was correct. Sometimes the participants would go off topic and began talking about something different. In this case I attempted to rephrase the question again to keep them on track.

c) Observations

Observations refer to viewing people's actions in systematic and planned way in their own natural field in order to record and analyse their behavior (Gray, 2013). Since this study aims to explore how teachers manage their students' behavior in reality, the observation method seems to be an appropriate way to collect the data. Dawson and Books (2009) indicate that observations help to investigate a new culture, community and context providing deep understanding of attitudes and behaviors of participants under study specially with qualitative researches.

d) Process of observations

The first step I have done to conduct the observations is to contact the head teachers of Saudi school in Manchester. Becoming familiar with the community and having previous good relationship with the gatekeepers facilitate your access to this community (Dawson and Books, 2009, Gray, 2013). As my children were studying at this school and the head teacher is one of my friend, he gave me the permission to conduct the observations and allowed me to access the school. I agreed with him about the time and the date of observations and then I sent him the consent forms and asked him to deliver them to the teachers. I have reached the school before the agreed time and at the break time I have met the teachers, explained to them the purpose of the study and asked them to sign the consent forms.

When it is impossible to stay long enough in the field to experience all activities , the solution is to make time sampling (Gray, 2013). As this is just a pilot study and it is difficult to stay at the school long time I just managed to conduct two observations. At the first observation I observed the teacher A who was teaching class one and used the observation sheet (see appendix 2) which includes six main objectives or behaviors. On beside each objective I wrote the relative behaviors. At the second observation I observed the teacher B who was teaching class two and used a free observation sheet and focused on the same objectives which is mentioned in the first observation. However, in both observations I attempted to write as much detail as possible with any things may related to classroom management including description of the class, physical equipment, people, activities, time and feeling. Although it is too early to start analysing while you observing, it is essential to write down your feelings (Gray, 2013).

Gray (2013) recommends to write the notes immediately. As I was sitting in the back of the class and in the front of the teacher, I wrote the notes at the same time of observation in order not to forget some information and to make the teachers feel more comfortable instead of staring at them which may encourage them to act naturally. As Gray (2013) suggests, I distinguished between notes I wrote in my own words and actual quotations by putting quotations marks on the latter. At the end of the observations I thanked them again and thanked the head teacher.

In order to analyse the data collected from the observations and the interviews, the researcher adopted thematic analysis which seems to be the most appropriate analytical methods for this transcript. I followed Braun and Clarke's (2006) phases to run thematic analysis which are; familiarizing yourself with your data, generation initial codes, searching for themes, reviewing themes, defining and naming themes and producing the report. Themes in observations are similar to (TCM) objectives while themes in interviews are support, suggestions and criticisms.

V. Results and Discussion

a) Observations' results

The purpose of these two observations is to explore the methods which have been used in Saudi primary schools to manage classes and to find out to what extent these methods affect students' behaviors. Through the observations I found that teachers used numerous methods of classroom management. In the next paragraphs I will present these methods according to The Incredible years' methods and I will display how students response to them.

b) Building positive relationships with students

Building relationships has many techniques such as building relationship with difficult students, building relationships with parents and giving students choices when possible which usually need time and sometimes efforts outside the class. In fact I could not see many behaviors serve building relationships but both teachers showed a high level of respect and very good feelings towards students. For example, the teacher A used the word "my love" many times when she was responding to students. In addition, she wiped a student's head when she went to him to see his answer. The teacher B was saying "thank you" to each student when he or she finish reading.

c) Preventing behavior problems

Preventing behavior problems before they occur or being proactive teacher seems to be the most common method has been used by both teachers. For instance, the usage of nonverbal signals, when the teacher A noticed that a student were talking with his friend she said "shooooo" and the student became quiet again immediately. The same situation happened to the teacher B and she put her finger on her mouth and when they shouted inappropriately, her face changed indicating that she is unhappy with their behavior then they calmed down again. Another example for this method is giving clear commands such as" Sara, come here" " turn the page" "organize your disk" Saud, sit down please". However, the teachers used rarely some negative commands such as "this is shame, don't do that".

One of the most effective methods to prevent problems is to have a clear plan and to operate students and to fill their time. It seems to me that both teachers have a clear plan to manage the class and students were busy while they were performing their tasks and did not commit any disruptive behaviors. However, to apply this strategy perfectly teachers need also to prepare students for transitions which I could not notice. This transcript from my field work may explain the situation;" everybody now write these sentences in his notebook, students are writing and the class are quite, the teacher is moving from a student to another to chick their writing, after about three minutes one students said

that teacher I am finished, another student start looking at the window, tow students start talking together…."

Having a good learning environment is an effective element in preventive management. This piece of writing from my field notes describes teacher A's classroom environment. "There are eleven students, five girls and six boys, sitting on rows, each student has his or her own chair with many empty chairs and the teacher stand in the front of them, the class is not clean, organized enough and the blackboard are covered by another sheets. There are no toys, puzzles or any entertainment instruments…." Similar to this description applied in teacher B classroom but with just five students. Such this environment may cause boredom which may lead to chaos.

Setting clear, predictable classroom rules also help teachers to manage their classes and avoid students' problems. The teacher A perhaps agreed with her students about certain rules but I could not notice and recognize them. In contrast, I could notice clearly that the teacher B used such rules properly and managed to remind students every now and then. For instance, when they started to answer without permission she said " there are rules to answer, anyone know the answer must raise his hand". When more than one student raised their hands she said "I will choose Mohammed because he raised his hand first" and "since Jorray raised her hand first she has the right to answer"

e) The importance of teacher attention and praise

The teachers A and B were praising students to develop their social and academic skills. The teacher A praised her children when they finish reading by saying "sweet, thank you, beautiful, excellent, good boy". Sometimes she repeats the word many times "sweet, sweet, sweet" to show her happiness about students' achievement, and sometimes she gives general praise for the whole class such as" thank you for the pupils who are working hard".

With respect to the teacher B, she also praised her students when they answer correctly such as saying " excellent, oh my god". what might distinguish the teacher A is that she was keen to enhance the collaboration between students and make them enjoy praising each other. For example, she asked students to clap another students when he gave the correct answer. Therefore, students in one team were discussing with each other and sharing ideas to find answers.

f) Ignoring and redirecting

Although ignoring is considered as a strategy to deal with misbehaviors, it is not always the best solution but differs according to the level of misbehavior, the child and the situation. In the teacher A class students committed some misbehaviors and the teacher did not take any action toward them. For example, when she

was busy with one student, tow students were talking and another student went to the teacher's desk playing with her papers and items. I think ignoring is not a suitable method in these situations and she may need to redirect them to be in another task by using verbal or nonverbal signals.

g) Consequences

Using punishments is the last step teacher can take to tackle some problems which should be used but not all the time. From this section of my field notes of teacher A we can see what is the wrong behavior that students have done and how the teacher dealt with it. "the teacher was busy with some students, four students walked toward the door, they stood near the door and started talking together, after about two minutes they got out the class and continued talking near the class, the teacher noticed that then she called them and she said " ok get out the class" then left them about ten seconds and then said " where should you sit? Why did you get out?" then she allowed them to get in".

VI. Interviews' Results

The conducting of interviews was to generate data about two main aspects. Firstly, to insure the validity of the design of the study and to what extent it facilitate to achieve study objectives and answer its questions and to provide some suggestions which may improve the study. Secondly, to provide general idea about the results of the main study which may help to generate initial themes and experience analytical process. Therefore, the results of the pilot study's interviews revolve around these two purposes.

Due to conducting the interviews before the observations, the latter have been affected positively via some suggestions. For example, Sara stressed the importance of observation sheet and suggested to conduct more than one observation in many different ways in order to decide what is the most appropriate method to your study. However, the same participant raised a problem which may affect the validity of the observation as the students may become more quiet due to the presence of the researcher. This may limit teachers to show their skills and ability to manage students' behaviors and the field notes will be limited as well.

The participants also provided many various, beneficial and essential suggestions. In fact, to present the design of the study to the participants without any main rejection is considered in itself a valuable result indicates to their agreement and support. However, some of the participants such as Ali expressed that the design is valid generally while Sara preferred to states her admiration for some specific points such as the usage of video and the reflection and this is a part of her interview." when you said as part of the program, the teachers are observed and then they get chance to talk about that I thought well that does sound very promising sign for the program. Reflective practice is important so teachers can learn to change or develop their practices through reflection process a critical reflection." One of the concern about implementation of the program was about the time as the program should be applied in six days monthly which seems to be very difficult. As a solution of this problem I reduced the time to be six days weekly and all participants were satisfied with this decision.

In addition to their satisfaction and support to the design of the program, the participants provided many suggestions for the design in general and for interviews, observations and the training in particular. For instance, Ali provided numerous ideas include: firstly, week to rest " Ali: are the weeks consecutive?. I: Yes. Ali: try to add one week in the middle. It will be chance to you to analyse your data, organise your work, to reflect and think about what you have done, if you cover the aspect you want or not? In three weeks you will have massive information and through initial analysis you may find positive section support the rest of interviews and observation". Secondly, to conduct all the study in just one school which may make it easier to build rapport with teachers, coordinate the time table of the workshops and become more familiar with students. Thirdly, to have research dairy and record relative comments and ask teachers to write their feelings, thoughts and events specially that you did not observe. Sara also has a suggestion related to research questions. She thinks that research questions should focus on the challenges and barriers of implementation a program of classroom management in special context instead of focusing on the evaluation of the program.

There are also suggestions related to the training program. For example, Sara and Ali suggest using video clips as a tool to enrich the training program instead of make them just for memory. Ali said " it is good chance to play a video clip and make it as a talk point". In addition, Salim stressed the importance of flexibility in time whereas it is not easy to find a certain suitable time for all participants and for the researcher as well.

Salim also suggests to include head teachers, educational supervisors and students advisers in the workshops and interviews as they may have more information and experience than teachers in some aspects. Head teachers for example may provide richer information with regard to administrational issues, policy and educational system while student advisors may have more experience in students problems and misbehaviors whether inside or outside the class. Since the study just cover three teachers, educational supervisors can provide wider information as they visit daily several schools and observe many teachers.

The majority of suggestions were to improve the observations. All participants recommend to run many initial observations in order to insure that students and teachers began to behave naturally without any impact of being observed or videoed then start to generate data. In order not to lose some information, Sara suggests to use two cameras instead of just one. One of them is put in the back to observe the teacher and the other one is put in the front to observe students as they are sitting in rows which makes video process easier.

However, interviewees indicate to some barriers and criticisms in the design of the study. The majority of the comments were about the ability to conduct observations, follow up teachers and set interview questions in limited time. Ali said that he faced severe difficulties in running observation and interviews for just three teachers. It seems that Sara also is sharing these concerns with him as she said "do you think you're comfortable in observing? As part of a follow up with them would you yourself feel comfortable to do that?". Additionally, Ali thinks that the period between feedback interviews and observations and final interviews and observations, one month, is too long and the participant may forget their impressions.

Regardless the design of the study, participants provided rich information about the program itself. This information could give general idea about the outcomes of the main study and its themes. This data mainly came from Ali and Salim who have previous experience in Saudi context. Both Ali and Salim think that the program will be effective and successful. The success of the program from Ali's perspective is due to reflection, follow up and practice which are contained in the program. While Salim believes that the program may have a positive impact on both teachers and students as he explains " the program contains some new things such as watching video, especially when you tell them that this program came from western countries, it will be like model for them, instead of saying to them look at me and copy me"

However, participants raised some potential challenges might face the implementation or effectiveness of the program. Foremost of these challenge is unwillingness to try or apply the program's ideas or concepts. It is likely to have teachers who may lose the willing to follow the program's instructions and they may use more strict methods to deal with children and have no desire to change them. Another challenge is the big number of students in the class with the length of the curriculum which is consistent with Aldossari (2013). This part of Salim's interview may explain this point more "they may say, I have thirty student, the class is messy, I am not empty to apply a special method to each student. I have too long books, if I would apply these methods it impossible to finish these books at the time, how you want me to build relationships or give incentives…..". Finally, as culture has major effects on

classroom management Ali indicates that culture also may be considered as one of the challenges or barriers. He gave an example of the role of the family and how parents may refuse or misunderstand some of these methods such as the usage of Tim Out.

VII. Recommendations for the Main Study

This study is a pilot study with form of expert panel. It has been conducted in Manchester due to the difficulties of applying it in its original environment, Saudi Arabia. Although it has achieved the purpose that it was applied for and provided many new and useful suggestions, it contained some limitations which must be considered. The main limitation refers to the differentiation between the implementation of the pilot study and the main study.

Although the pilot study and the main study include observations, the observations in the pilot study differ from observations in the main study in terms of the context and the purpose. It is true that the sample of the pilot study has been chosen from a Saudi primary school and included Saudi students but it is in Manchester and differs from primary schools in Saudi Arabia in numerous aspects. For instance, In Saudi Arabia, there are no mixed gender, boys and girls, schools but boys study alone and are taught by male teachers. Similarly, girls study alone and taught by female teachers while boys and girls study together and are taught by just female teachers. I think also students of the Saudi school in Manchester are not a representative sample for the students population in Saudi Arabia. They often moved to the UK to live with their parents who are doing their postgraduate studies and studied in Britain schools. It is likely that growing up with educated family, livening in another country and studying in different environment play a significant role in developing their characteristics and concepts.

There are also another physical factors may affect the observations. For example, the number of students in the pilot study was eleven pupils in one class and just five pupils in the other class while the number in Saudi schools reached to forty (Aldossari, 2013). Additionally, observations in the pilot study have been conducted just one time while in the main study it is planned that observations will be conducted more than eight times in each class which may encourage students and teachers to behave naturally. In terms of the relationship between observations and training, teachers in the pilot study did not receive any training about (TCM) while in the main study the researcher will observe teachers before, through and after the workshops in order to investigate their classroom management development.

There are also some differences between interviews in the pilot study and the main study. As it is

described before, this is an expert panel study includes three experts in the field who have experience in teaching. However, they do not teach currently and they acquired brief information about the program (TCM) in just fifteen minutes as I described it to them. In contrast, teachers in the main study are practicing teaching in reality and they will learn about the program in full six days which may facilitate them to provide richer and more valuable information. However, the main purpose of observations and interviews in the pilot study was to develop the research instruments and insure the validity of the design have been achieved.

At the beginning, I felt confused and I thought that observations do not answer my questions but after the analytical process I realized that the data contains the answers I look for. As I tried two different observation sheets as it described before, I found that the observation sheet which narrates the events according to the time, is easier and more suitable to write down the notes. The main points of classroom management were written on the side of the observation sheet which helped me to focus on them and notice them in the class.

There are also many helpful suggestions were provided by the interviewees which I intend to adopt in the main study. For example, focusing on just one school, week to rest and having researcher dairy and asking teachers to write their feelings and experiences during the week in their won dairy. With respect to the suggestions related to training, I may adopt the idea of using video clips which were taking from the observations to support the workshops. I also intend to include head teachers, educational supervisors, and students advisers in the training program and the interviews. The interviewees also indicated to the difficulties of finding a certain suitable time for all participants, therefore, I may attempt to provide the workshops weekly in two different days. In addition, there are ideas will be adopted which may increase the validity of the observations such as using two cameras and conducting enough amount of initial observations until students and teachers become more familiar with the observer and the cameras.

The interviewees raised some sensitive and critical issues. Ali believes that the time between final interviews and workshops is too long and may lead teachers to forget their thoughts and impressions. In fact, teachers will be observed and interviewed immediately after each section of training and all their feelings and opinions about the program will be recorded. The purpose of final observations and interviews is to explore the feelings which have been produced by practice more than the program itself and how these feelings are affected positively or negatively with long term. Salim also thinks that the success of the program will be affected dramatically by teachers' individual differences. For this point I have to consider

carefully the appropriate sampling method to gain a sample which includes teachers with different concepts and levels.

VIII. Conclusion

Although the pilot study has limitations as it was described before, it was useful and provided many suggestions. In the observations I managed to observe multiple methods of classroom management have been used by the teachers. Similarly, in the interviews many ideas which seem to improve the main study have been provided. The pilot study provided general idea about the patterns of the outcomes and made me more positive about the design of the study.

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Appendices

APPENDIX 1

(Interviews sheet for an expert panel)
Implementation of The Incredible Years Teacher Classroom Management Program in Saudi Arabia

- Description of the study: 5 minutes
- Description of the program (IY): 5 minutes
- Questions about the study: 10 minutes

1. Do you think that the design of the interviews are appropriate to collect data in this study?
2. How could I make them better?

- Questions about the program: 10 minutes

1. What is your opinion about The Incredible Years Teacher Classroom Management Program (TCM) in general?
2. How do you think teachers will response to it?
3. Do you think it is suitable in Saudi Arabia?
4. Which things you think may facilitate or hinder the use of (TCM)?

APPENDIX 2

Teacher's name:	Observation sheet	Time:
Class:		Subject:

Physical description:		
Objectives:	Examples:	
Building positive relationship with difficult students:	• Building positive relationship with difficult students. • Giving students choices when possible. • Sharing positive feeling with students.	
Preventing behavior problems:	• Establish clear classroom rules. • Reducing negative and vague command. • Using nonverbal signals.	
The importance of teacher attention:	• Using praise and encouragement more affectively for targeted behaviors. • Providing nonverbal cues of appreciation • Encouraging students to praise themselves.	

Motivating children through incentives:	• Providing unexpected reward and celebration. • Using complement charts for targeted positive behaviors.
Ignoring redirecting:	• Ignore inappropriate response from children. • Staying calm. • Teaching students how to ignore misbehaviors form their peers.
Follow through with consequences:	• Using guidelines for setting up Time Out in the classroom. • Using the color card system. • Using anger thermometer to help students to calm down.
Emotional regulation social skills:	• Fostering listening and speaking skills between students. • Involving parents in encouraging their children's social skills. • Teaching students how to ask for what they want in appropriate ways.

Differences in Reading Skills by Ethnicity/Race for Texas High School Students: A Statewide, Multiyear Examination

By Lee Alan Wright, John R. Slate & George W. Moore

Sam Houston State University

Abstract- Analyzed in this study was the extent to which differences were present in the reading skills of Texas high school students as a function of ethnicity/race (i.e., Asian, White, Hispanic, and Black). Archival data were obtained from the Public Education Information Management System on all Texas high school students for the 2004-2005 through the 2011-2012 school years. Statistically significant differences were present in reading skills by student ethnicity/race in all 8 school years. For all analyses, average reading scores were lower for Black students than for Asian, White, and Hispanic students. Similarly, average reading scores were lower for Hispanic students than for Asian and White students. Results were mixed for White and Asian students. Implications for policy and for practice are discussed, along with suggestions for future research. Suggestions for future research and implications for policy and practice were made.

Keywords: critical -thinking skills, ethnicity/race, exit level, literacy, reading skills.

GJHSS-G Classification: FOR Code: 339999p

DIFFERENCESINREADINGSKILLSBYETHNICITYRACEFORTEXASHIGHSCHOOLSTUDENTSASTATEWIDEMULTIYEAREXAMINATION

Strictly as per the compliance and regulations of:

Differences in Reading Skills by Ethnicity/Race for Texas High School Students: A Statewide, Multiyear Examination

Lee Alan Wright [α], John R. Slate [σ] & George W. Moore [ρ]

Abstract- Analyzed in this study was the extent to which differences were present in the reading skills of Texas high school students as a function of ethnicity/race (i.e., Asian, White, Hispanic, and Black). Archival data were obtained from the Public Education Information Management System on all Texas high school students for the 2004-2005 through the 2011-2012 school years. Statistically significant differences were present in reading skills by student ethnicity/race in all 8 school years. For all analyses, average reading scores were lower for Black students than for Asian, White, and Hispanic students. Similarly, average reading scores were lower for Hispanic students than for Asian and White students. Results were mixed for White and Asian students. Implications for policy and for practice are discussed, along with suggestions for future research. Suggestions for future research and implications for policy and practice were made.

Keywords: critical-thinking skills, ethnicity/race, exit level, literacy, reading skills.

I. Introduction

Although ethnic achievement gaps have narrowed considerably in the last one-half century, White students continue to score 0.75 standard deviations above Black and Hispanic students in reading while Asian students continue to post higher overall scores than White students on state assessments (Reardon, 2011; Reardon, Valentino, Kalogrides, Shore, & Greenberg, 2013; Texas Education Agency Academic Excellence Indicator System, 2005, 2007, 2009, 2011; Texas Education Agency Texas Academic Performance Report, 2014). Of the 5,135,880 students enrolled in public schools in Texas during the 2013-2014 school year, the majority student population was Hispanic at 51.8% (Texas Education Agency Texas Academic Performance Report, 2014). White students comprised 29.4%, Black students 12.7%, and Asian students 3.7% of the total student enrollment (Texas Education Agency Texas Academic Performance Report, 2014). Although the Hispanic population has increased from 2004-2005 to 2013-2014 (44.7% to 51.8%), Hispanic student achievement on state assessments has remained near the bottom of the four ethnic/racial groups (Texas Education Agency Academic Excellence Indicator System, 2005, 2012; Texas Education Agency Texas Academic Performance Report, 2014).

White students consistently scored 5-8% higher than Hispanic students on state high school Exit Level English Language Arts assessments during the 2004-2005 through the 2013-2014 school years and 4-10% higher than Black students (Texas Education Agency Academic Excellence Indicator System, 2005, 2007, 2009, 2011; Texas Education Agency Texas Academic Performance Report, 2014). Asian students scored 1-3% below White students with just a slight change (+0.7%) in their percentage of state enrollment (Texas Education Agency Academic Excellence Indicator System, 2005, 2007, 2009, 2011; Texas Education Agency Texas Academic Performance Report, 2014). However, Asian students did achieve a higher Commended percentage than White students (43% to 33%) and far exceeded Hispanic (17%) and Black (14%) Commended scores (Texas Education Agency Texas Academic Performance Report, 2014).

II. Literacy and Reading Skills

Reading comprehension as a skill has noteworthy merit for students at all levels of education because it advances opportunities to learn in other subjects (Grimm, 2008). Just as improving reading skills can advance a students' progress through multiple levels of schooling, students who are not proficient readers often experience negative effects outside the classroom, as well (Grimm, 2008). Snow, Burns, and Griffin (1998) commented that students who are struggling to read at the level of their peers frequently also exhibit lower performance in other academic subjects. Benner, Nelson, Stage, and Ralston (2011) discussed less than proficient nationwide outcomes in reading and declared that "reading achievement remains a critical priority to schools" (p. 79).

Fuchs, Fuchs, and Kazdan (1999) noted that in secondary grade levels, little time or effort is devoted to teaching basic reading skills to students, and the achievement gap continues to exist and even get larger. Goldman (2012) suggested that secondary teachers' focus on course content over skills has led to many teachers "de-emphasizing the literacy practices central to comprehending the content" (p. 93). Most secondary teachers lack the skills and resources to teach students to read effectively, but inferred that lessons created and taught by teachers should have a balance between emphasizing content knowledge and the advancement

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of literacy (Goldman, 2012). Teachers often focused on creating lessons aligned to course curriculum documents related to content standards and did not generally allocate time to provide direct instruction for basic reading skills (Mercer, Campbell, Miller, Mercer, & Lane, 2000; Salinger, 2003).

McArdle and Hamagami (2001) established that students who are not proficient readers are more prone to disciplinary actions and problems related to inappropriate behavior in school. Students who struggle with reading comprehension in school were more apt to drop out of school and to remain in lower wage jobs for the majority of their lives (U.S Department of Education, 2003). Sadly, long-term consequences for struggling readers include poor performance in school, less motivation to read and continue learning, and less self-confidence (Armbuster, Lehr, & Osborn, 2001).

III. Critical-Thinking Skills

Aloqaili (2012) concluded that an interdependent relationship exists between students' reading comprehension abilities and their critical-thinking skills. Elder and Paul (2013) defined critical thinking as "the art of analyzing and evaluating thinking with a view to improving it" and summed that critical thinking "attempts to reason at the highest level of quality" (p. 17). Wright and Slate (2015) indicated that as reading skills and critical thinking become more central features of the learning process after elementary school grades, the achievement gap becomes more apparent. Critical-thinking skills are measured on state assessments in Grades 3-8 on only one of four reading objectives, but once students begin high school, two of the three reading objectives assess students' critical-thinking skills (Texas Education Agency Student Assessment Division, 2004). Goldman (2012) proclaimed that the teacher bears the burden of refining students' critical-thinking skills.

Limbach and Waugh (2010) and Zabit (2010) discussed relating certain ideas, such as prior knowledge, making inferences, and critical-thinking skills to reading comprehension. Facione (1984, 2015) declared that arguments are evaluated and defended using critical-thinking skills, which is a key component of the comprehension of what one reads. Beck (1989) asserted "there is no reading without reasoning" which strengthens the argument for interdependence (p. 677). Furthermore, Broek and Kremer (2000) suggested that connections existed between critical thinking and making inferences which promoted increased comprehension in reading. Aloqaili (2012) summed up his research on critical thinking and the relationship to reading comprehension when he proclaimed that "comprehension itself has been seen as a critical-thinking process" (p. 38).

IV. Ethnicity

Hawley and Nieto (2010) pronounced that ethnicity/race affects learning opportunities and how students respond to classroom instruction. A common misconception, according to Hawley and Nieto (2010), is that the successful instructional strategies for Asian and White students will work for Black and Hispanic students, if only those strategies are used with more frequency. Black and Hispanic students nationwide were four grade levels behind White students in academic achievement by Grade 12, a widening of the two grade level gap from Grade 4 (U.S. Department of Education, 2000). Barnes and Slate (2014) reported that for the academic year 2006-2007, college readiness among all students was 44.76%, with White students being higher (53.21%), Hispanic students being lower (37.04%), and Black students being lowest (33.97%).

Ethnic achievement gaps differ as students progress through each grade with the Black-White gap widening, the Hispanic-White gap narrowing, and the Asian-White gap closely aligned (Lee, 2002). Ang (2014) compared existing achievement gaps between Hispanic and White students and Black and White students, which originate in the early grades. Many Hispanic and Black students begin their educational career academically behind White students (Ang, 2014; Lee, 2002; Reardon & Galindo, 2008).

Davis-Kean and Sexton (2009) contended that Asian students have more emphasis placed on educational involvement in the home over other ethnic groups. Parents of Asian students are more involved in students' homework and attend school functions with more frequency than parents of other ethnic groups (Davis-Kean & Sexton, 2009). Additionally, Davis-Kean and Sexton (2009) remarked that a strong predictor for student academic achievement is the level of parental involvement.

Reardon, Valentino, and Shores (2012) commented that the gap in reading skills between Black and White students has decreased over time, narrowing by as much as 50% from 1970 to 2008. Since 1990, the Black-White reading gap fluctuated with a wider gap in the beginning of the 1990's decade and a slow narrowing for the next 18 years (Lee, 2002; Reardon et al., 2012). Interestingly, achievement gaps between Blacks and Whites grow the most during the first six years of school (Reardon et al., 2013). Therefore a downward trend in academic achievement among Black students compared to Whites in elementary grades is followed by an upward trend in intermediate and high school grades (Reardon et al., 2013). This achievement gap widens in the early years much further than it closes in the latter years; if the gap could narrow in the early school years as opposed to widening, the chances increase for continued narrowing of the Black-White gap after completion of elementary school. Barnes and

Slate (2014) documented thatd from 2002 to 2009, the White-Black college-readiness gap in Texas increased from 15% to 21%.

Ang (2014) attributed the narrowing of the Hispanic-White achievement gap to the efforts and progress made during early schooling as Hispanic students engage in more English language acquisition. Hispanic students' academic growth has been hindered by high student mobility rates as parents have moved in search of steady employment (Ang, 2014). Not only academic achievement gaps have developed though, as challenges exist in student motivation among Hispanic students. Additional conclusions by Ang (2014) were that even though parents may move for work, "it is not parents' values or behaviors that drive the achievement gap between Hispanics and Whites" (para. 11).

Hispanic students comprised 16% of the nation's population and are the second largest racial/ethnic group in the United States, only behind Whites (U.S. Department of Education, 2011). Although Hispanic students in several states closed the reading gap in small 2-3 year periods, the overall reading gap between Hispanic and White students had not changed in any state by 2009 compared to National Center for Educational Statistics data collected in 1998 (U.S. Department of Education, 2011). Hispanic students were 17% below White students during the years 2002 to 2009, a clear indicator of an ethnic gap, yet also displayed the gap did not grow during that time (Barnes & Slate, 2014). Additionally, Lee (2002) affirmed a stable three-decade gap related to Hispanic-White achievement. Hispanic students also experienced similar trends in their reading gap between themselves and White students during the 40 years prior to 2008 (Reardon et al., 2012).

Problems discussed by Valenzuela (1999) centered on the idea that lack of caring relationships between ethnic minority students and teaching staff, as well as the structure of educational organizations are more negatively influential than students' ethnicity/race or even socioeconomic status. Hawley and Nieto (2010) suggested to build trusting relationships between students of ethnic/racial minorities and staff, professional learning communities are effective to "provide the structure, shared respect, and trust needed for collaboratively addressing" the issue facing achievement (p. 70). Hawley and Nieto (2010) encouraged educational leaders and teachers to improve relationships and positively affect academic achievement by: (a) consistently communicating and learning about students' families, (b) becoming familiar with available community resources, and (c) engaging families about the education of their child and seek ways to provide a culturally enriching curriculum. Hildalgo, Sui, and Epstein (2004) espoused for educators to listen to the families about what they want their child's educational experience to provide.

Davis-Kean and Sexton (2009) commented that cultural parenting beliefs may play a factor in reading achievement among all ethnic groups. Bradley and Corwyn (2002) and Lee (2002) discussed difficulties analyzing differences among student academic performance by ethnicity/race. Research challenges emerged when determining if reading gaps were present related to racial/ethnic trends or socioeconomic differences between minority student groups and White student groups (Bradley & Corwyn, 2002; Lee, 2002). Factors determined by Lee (2002) that also affected the ethnic achievement gap included: (a) economic status, (b) student motivation, (c) school culture and conditions, (d) alcohol or drug use, (e) crime, and (f) instructional resources. To reach and teach students of ethnic minorities more effectively, Hawley and Nieto (2010) suggested educators adhere to the following steps: (a) gain an understanding into how ethnic differences impact learning outcomes, (b) learn and utilize culturally responsive instructional strategies, and (c) promote social conditions on campus that support the individual needs of each student.

V. Statement of the Problem

School districts and campuses in Texas have focused efforts in the 21st century on differences in student performance by ethnicity/race among other concerns. Campus accountability ratings under the No Child Left Behind Act of 2001 (NCLB) were partially determined by student growth in poorly performing demographic groups (U.S. Department of Education, Office of the Under Secretary, 2003). When accountability measures are considered, whether achievement gaps have developed between ethnic/racial groups over time is important and if those gaps have narrowed, widened, closed, or stagnated. A common problem cited by researchers examining student performance by ethnicity/race is that other factors within each ethnic group, or common across all, seem to affect results more than the students' ethnicity/race itself (Bradley & Corwin, 2002; Davis-Kean & Sexton, 2009; Hawley & Nieto, 2010; Valenzuela, 1999).

a) Purpose of the Study

The purpose of this study was to examine the extent to which differences were present in student academic achievement in reading among Texas high school students as a function of their ethnicity/race. Specifically, each year of the Texas Assessment of Knowledge and Skills (TAKS) Exit Level English Language Arts assessment data was examined separately to determine whether differences were present in academic achievement among four ethnic/racial groups (Asian, White, Hispanic, and Black). Finally, the extent to which a trend was present in reading skills among students in these four ethnic/racial groups was determined.

b) Significance of the Study

This study will provide essential information on the differences between reading skills among student of different ethnic/racial groups (i.e., Asian, White, Hispanic, and Black). Research gathered and synthesized in this study will offer educational leaders more insight into the trials they face regarding differences in student reading achievement by ethnicity/race. Ideally, these research findings could assist policymakers in local or state education agencies in their search to provide a culturally responsive and diverse educational experience for students in all ethnic/racial groups. Additional research could be beneficial regarding the variety of reading skills, from basic understanding and reading comprehension skills to higher-order critical-thinking skills, and the effect that differences in ethnicity/race has on these required skills. Conclusions from this study may create awareness related to differences that exist on high school state assessments as a function of ethnicity/race and their levels of reading skills.

Students of each ethnic/racial group advance from Kindergarten through Grade 12 with different expectations at each level. In the early grade levels, curriculum standards are created that promote basic reading skills and phonetic awareness (Feldman, 2015; Joseph 2008). Once students move past Grade 2, learning expectations change to where students are reading to learn using basic reading skills to examine and analyze various culturally diverse texts (Feldman, 2015). During this time, many ethnic/racial differences are apparent between Hispanic and White students and between Black and White students, as reported by Ang (2014).

Differences in the achievement of student demographic populations are delineated by local and state education agencies using state assessment data. As students complete elementary school and move into intermediate grade levels (Grades 5-8), the expectation is that each student should be able to demonstrate basic reading comprehension skills. Those reading skills also provide opportunities for the improvement of students' thinking and processing skills. To meet the standard of the Exit Level English Language Arts exam and eventually graduate, students must demonstrate mastery of the content and skills outlined in the three TAKS Objectives for the assessment:

Objective 1: The student will demonstrate a basic understanding of culturally diverse written texts; *Objective 2:* The student will demonstrate an understanding of the effects of literary elements and techniques in culturally diverse written texts; and *Objective 3:* The student will demonstrate the ability to analyze and critically evaluate culturally diverse written texts and visual representations. (Texas Education Agency Student Assessment Division TAKS Information Booklet, 2004, p. 5)

VI. Research Questions

The following overarching research question was addressed in this investigation: What is the difference in the reading skills of Texas high school students as a function of ethnicity/race for the 2004-2005 school year? Specific sub questions under this overarching research question were: (a) What is the difference in basic understanding of written texts of Texas high school students as a function of ethnicity/race for the 2004-2005 school year?; (b) What is the difference in understanding of literary elements and techniques of Texas high school students as a function of ethnicity/race for the 2004-2005 school year?; (c) What is the difference in analysis and critical evaluation of written texts of Texas high school students as a function of ethnicity/race for the 2004-2005 school year?; and (d) What is the extent to which a trend is present in the reading skills of Texas high school students as a function of ethnicity/race for the 2004-2005 through the 2011-2012 school years? Each of the first three research questions was repeated for each of the 8 school years whereas the last research question, a trend question, was repeated for the three reading objectives. Thus, a total of 27 research questions constituted this research investigation.

VII. Method

a) Research Design

Acausal comparative longitudinal investigation research design (Johnson, 2001) was used for this study. Independent variables have already occurred in this study design and extraneous variables were not controlled. Past assessment results were represented by the archival data that were utilized (Johnson & Christensen, 2012).As such, the independent variables involved in this research article were student ethnic/racial groupings (i.e., Asian, White, Hispanic, and Black) and the three dependent variables were the TAKS Exit Level English Language Arts scores in the three reading objectives for the 2004-2005 through the 2011-2012 school years.

b) Participants and Instrumentation

For all students who took the TAKS Exit Level English Language Arts exam for the 2004-2005 through the 2011-2012 school years, archival data were obtained from the Texas Education Agency Public Education Information Management System. Information was requested using a Public Information Request form to obtain these data for a Basic Statistics course. Objectives 1-3 scores derived from the TAKS Exit Level English Language Arts reading objectives were analyzed. Within Objectives 2 and 3 of the TAKS Exit Level English Language Arts exam are expectations for students related to the demonstration of critical-thinking skills. Students are required to make connections

between information previously learned and new information presented on the exam, and then students are expected to use critical-thinking skills to make predictions (Texas Education Agency Curriculum Assessment, and Technology, 2002, p. 2). Contained in the Exit Level English Language Arts exam are eight multiple choice questions each for Objective 1 (reading - basic understanding) and 2 (reading – literary elements and techniques), with one short-answer response requirement in Objective 2 (Texas Education Agency Curriculum, Assessment and Technology, 2002). Twelve multiple choice items on the assessment pertain to Objective 3 (reading – analysis and critical evaluation) as well as two short-answer items (Texas Education Agency Curriculum, Assessment and Technology, 2002).

Furthermore, students are asked to make connections between literature and "historical contexts and current events" and to use various written texts to compare and contrast items (Texas Education Agency Curriculum Assessment, and Technology, 2002, p. 2). State exit level assessments align with high school content and thinking standards (Texas Essential Knowledge and Skills) and both require students to "explore literary and expository texts with a greater depth of understanding" (Texas Education Agency Student Assessment Division, 2004, p. 4). Included in the assessment is the expectation for students to use critical-thinking skills to analyze "how literary elements and techniques contribute to a text's meaning" and to make connections between previously learned knowledge and different written texts (Texas Education Agency Student Assessment Division, 2004, p. 4). Readers are directed to the Texas Education Agency website for information regarding the score reliability and score validity of this assessment.

VIII. Results

Results of statistical analyses for ethnic/racial groupings will be described by Reading Objective. The TAKS Exit Level ELA Reading Objectives are as follows: (a) Objective 1: basic understanding of texts; (b) Objective 2: apply knowledge of literary elements and

techniques; and (c) Objective 3: analysis and critical evaluation of texts. Results will be presented in chronological order beginning with the 2004-2005 school year and concluding with the 2011-2012 school year.

Prior to conducting a multivariate analysis of variance (MANOVA) for Texas high school students who took the TAKS Exit Level English Language Arts assessment in each of the 2004-2005 through the 2011-2012 school years, its underlying assumptions were checked. Specifically examined were data normality, Box's Test of Equality of Covariance, and the Levene's Test of Equality of Error Variances. Although these assumptions were not met, the robustness of a MANOVA procedure made it appropriate to use on the data in this study (Field, 2009).

With respect to the 2004-2005 school year, the MANOVA revealed a statistically significant overall difference, Wilks' Λ = .92, $p<$ .001, partial η^2 = .03, by ethnicity/race in their assessed TAKS Exit Level Reading skills. Using Cohen's (1988) criteria, the effect size was small. Univariate follow-up analysis of variance procedures yielded statistically significant differences in student performance on TAKS Reading Objective 1, F (1, 207583) = 1803.15, $p<$ .001, partial η^2 = .03, small effect size; TAKS Reading Objective 2, F (1, 207583) = 2691.64, $p<$ .001, partial η^2 = .04, small effect size; and TAKS Reading Objective 3, F (1, 207583) = 4597.51, $p<$ .001, partial η^2 = .06, moderate effect size.

Scheffe`post hoc procedures revealed that statistically significant differences were present by ethnicity/race for all three Reading Objectives. Of the 37 questions on the assessment contained in these three Reading Objectives, average scores were highest for Asian students, followed by White, Hispanic, and then Black students. For the eight questions related to Reading Objective 1, the 11 questions related to Reading Objective 2, and the 18 questions related to Reading Objective 3, results were similar. Readers are referred to Table 1 for the descriptive statistics for students' TAKS Exit Level ELA scores by Reading Objective and ethnic/racial grouping for the 2004-2005 school year.

Table 1: Descriptive Statistics for TAKS Exit Level English Language Arts Scores by Reading Objective and by Ethnicity/Race for the 2004 2005 and 2005 2006 School Years

School Year, Reading Objective, and Ethnicity/Race	n	M	SD
2004-2005			
Reading Objective 1	101,698	6.63	2.32
White	73,727	5.96	2.64
Hispanic	26,463	5.58	2.92
Black	5,699	6.80	2.30
Asian			

Reading Objective 2			
White	101,698	7.29	2.78
Hispanic	73,727	6.34	3.02
Black	26,463	5.81	3.27
Asian	5,699	7.66	2.80
Reading Objective 3			
White	101,698	11.67	4.37
Hispanic	73,727	9.54	4.68
Black	26,463	8.89	5.01
Asian	5,699	12.07	4.43
2005-2006			
Reading Objective 1			
White	100,526	6.64	2.25
Hispanic s	76,728	6.06	2.51
Black	28,828	5.76	2.81
Asian s	6,000	6.72	2.30
Reading Objective 2			
White	100,526	8.24	2.74
Hispanic	76,728	7.36	3.07
Black	28,828	7.05	3.42
Asian	6,000	8.28	2.82
Reading Objective 3			
White	100,526	12.54	4.17
Hispanic	76,728	11.29	4.61
Black	28,828	10.73	5.18
Asian	6,000	12.72	4.35

Concerning the 2005-2006 school year, the MANOVA revealed a statistically significant overall difference, Wilks' Λ = .97, $p<$ .001, partial η^2 = .01, small effect size, by ethnicity/race in their assessed TAKS Exit Level Reading skills. Univariate follow-up analysis of variance procedures yielded statistically significant differences in student performance on TAKS Reading Objective 1, F (1, 212078) = 1451.48, $p<$ .001, partial η^2 = .02, small effect size; TAKS Reading Objective 2, F (1, 212078) = 1963.74, $p<$ .001, partial η^2 = .03, small effect size; and TAKS Reading Objective 3, F(1, 212078) = 1863.05, $p<$ .001, partial η^2 = .05, small effect size.

Scheffe` post hoc procedures revealed that statistically significant differences were present among ethnic/racial groupings for all three Reading Objectives with two exceptions. White and Asian students for Reading Objectives 1 and 2 did not differ in their average scores. Of the 37 questions on the assessment contained in these three Reading Objectives, average scores were highest for Asian students, followed by White, Hispanic, and then Black students. For the eight questions related to Reading Objective 1, the 11 questions related to Reading Objective 2, and the 18 questions related to Reading Objective 3, results were similar. Readers are referred to Table 1 for the descriptive statistics for students' TAKS Exit Level ELA scores by Reading Objective and ethnic/racial grouping for the 2005-2006 school year.

In the 2006-2007 school year, the MANOVA revealed a statistically significant overall difference,

Wilks' Λ = .95, $p<$ .001, partial η^2 = .02, small effect size, by ethnicity/race in their assessed TAKS Exit Level Reading skills. Univariate follow-up analysis of variance procedures yielded statistically significant differences in student performance on TAKS Reading Objective 1, F (1, 218990) = 2534.04, $p<$ .001, partial η^2 = .03, small effect size; TAKS Reading Objective 2, F (1, 218990) = 3308.01, $p<$ .001, partial η^2 = .04, small effect size; and TAKS Reading Objective 3, F (1, 218990) = 1725.94, $p<$ .001, partial η^2 = .02, small effect size.

Scheffe` post hoc procedures revealed that statistically significant differences were present among ethnic/racial groupings for all three Reading Objectives, with three exceptions. White and Asian students did not differ in their average scores on Reading Objectives 1, 2, and 3. Of the 37 questions on the assessment contained in these three Reading Objectives, average scores were highest for Asian students, followed by White, Hispanic, and then Black students. For the eight questions related to Reading Objective 1, the 11 questions related to Reading Objective 2, and the 18 questions related to Reading Objective 3, results were similar. Readers are referred to Table 2 for the descriptive statistics for students' TAKS Exit Level ELA scores by Reading Objective and ethnic/racial grouping for the 2006-2007 school year.

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Table 2: Descriptive Statistics for TAKS Exit Level English Language Arts Scores by Reading Objective and by Ethnicity/Race for the 2006-2007 and 2007-2008 School Years

School Year, Reading Objective, and Ethnicity/Race	n	M	SD
2006-2007			
Reading Objective 1			
White	101,162	6.63	2.25
Hispanic	82,314	5.85	2.46
Black	29,526	5.53	2.69
Asian	5,992	6.19	2.43
Reading Objective 2			
White	101,162	7.74	2.66
Hispanic	82,314	6.69	2.87
Black	29,526	6.26	3.10
Asian	5,992	7.78	2.78
Reading Objective 3			
White	101,162	12.50	4.02
Hispanic	82,314	11.49	4.39
Black	29,526	10.70	4.90
Asian	5,992	12.61	4.28
2007-2008			
Reading Objective 1			
White	92,016	7.44	1.39
Hispanic	80,743	7.05	1.61
Black	26,034	7.07	1.64
Asian	5,991	7.32	1.71
Reading Objective 2			
White	92,016	8.30	1.78
Hispanic	80,743	7.66	2.02
Black	26,034	7.56	2.06
Asian	5,991	8.23	2.10
Reading Objective 3			
White	92,016	13.24	2.69
Hispanic	80,743	12.37	3.08
Black	26,034	12.18	3.14
Asian	5,991	13.27	3.28

Regarding the 2007-2008 school year, the MANOVA revealed a statistically significant overall difference, Wilks' Λ = .97, $p <$ .001, partial η^2 = .01, small effect size, by ethnicity/race in their assessed TAKS Exit Level Reading skills. Univariate follow-up analysis of variance procedures yielded statistically significant differences in student performance on TAKS Reading Objective 1, $F(1, 204780) = 1090.11$, $p <$ .001, partial η^2 = .02, small effect size; TAKS Reading Objective 2, $F(1, 204780) = 1998.21$, $p <$ .001, partial η^2 = .03, small effect size; and TAKS Reading Objective 3, $F(1, 204780) = 1725.89$, $p <$ .001, partial η^2 = .03, small effect size.

Scheffe` post hoc procedures revealed that statistically significant differences were present among ethnic/racial groupings for all three Reading Objectives, with three exceptions. White and Asian students did not differ in their average scores on Reading Objectives 2 and 3 and Hispanic students did not differ in their average scores from Black students on Reading Objective 1. For the eight questions related to Reading Objective 1 and the 11 questions related to Reading Objective 2, average scores were highest for White students, followed by Asian, Hispanic, and then Black students. For the 18 questions related to Reading Objective 3, average scores were highest for Asian students, followed by White, Hispanic, and then Black students. Readers are referred to Table 2 for the descriptive statistics for students' TAKS Exit Level ELA scores by Reading Objective and ethnic/racial grouping for the 2007-2008 school year.

With respect to the 2008-2009 school year, the MANOVA revealed a statistically significant overall difference, Wilks' Λ = .97, $p <$ .001, partial η^2 = .01, small effect size, by ethnicity/race in their assessed TAKS Exit Level Reading skills. Using Cohen's (1988) criteria, the effect size was small. Univariate follow-up analysis of variance procedures yielded statistically significant differences in student performance on TAKS Reading Objective 1, $F(1, 215340) = 1256.65$, $p <$ .001, partial η^2 = .02, small effect size; TAKS Reading Objective 2, $F(1, 215340) = 2085.09$, $p <$ .001, partial η^2 = .03, small effect size; and TAKS Reading Objective 3, $F(1, 215340) = 2202.54$, $p <$ .001, partial η^2 = .03, small effect size.

Scheffe` post hoc procedures revealed that statistically significant differences were present among ethnic/racial groupings for all three Reading Objectives, with three exceptions. White and Asian students did not differ in their average scores on Reading Objectives 1 and 2 and Hispanic and Black students did not differ in their average scores on Reading Objective 1. For the eight questions related to Reading Objective 1, average scores were highest for White students, followed by Asian, Hispanic, and then Black students. For the 11 questions related to Reading Objective 2 and the 18 questions related to Reading Objective 3, average scores were highest for Asian students, followed by White, Hispanic, and then Black students. Readers are referred to Table 3 for the descriptive statistics for students' TAKS Exit Level ELA scores by Reading Objective and ethnic/racial grouping for the 2008-2009 school year.

Table 3: Descriptive Statistics for TAKS Exit Level English Language Arts Scores by Reading Objective and by Ethnicity/Race for the 2008-2009and 2009-2010 School Years

School Year, Reading Objective, and Ethnicity/Race	n	M	SD
2008-2009			
Reading Objective 1			
White	91,951	7.25	1.46
Hispanic	89,488	6.82	1.66
Black	27,435	6.81	1.70
Asian	6,470	7.20	1.80
Reading Objective 2			
White	91,951	8.71	1.87
Hispanic	89,488	8.08	2.13
Black	27,435	7.85	2.21
Asian	6,470	8.72	2.25
Reading Objective 3			
White	91,951	13.56	2.90
Hispanic	89,488	12.56	3.31
Black	27,435	12.23	3.42
Asian	6,470	13.73	3.50
2009-2010			
Reading Objective 1			
White	90,241	7.27	1.44
Hispanic s	96,232	6.93	1.60
Black	28,688	6.83	1.68
Asian	7,001	7.22	1.71
Reading Objective 2			
White	90,241	8.81	1.78
Hispanic	96,232	8.19	1.99
Black	28,688	8.13	2.07
Asian	7,001	8.67	2.10
Reading Objective 3			
White	90,241	13.69	2.88
Hispanic	96,232	12.68	3.17
Black	28,688	12.38	3.36
Asian	7,001	13.74	3.34

Concerning the 2009-2010 school year, the MANOVA revealed a statistically significant overall difference, Wilks' Λ = .97, $p<$ .001, partial η^2 = .01, small effect size,by ethnicity/race in their assessed TAKS Exit Level Reading skills. Using Cohen's (1988) criteria, the effect size was small. Univariate follow-up analysis of variance procedures yielded statistically significant differences in student performance on TAKS Reading Objective 1, $F(1, 222158)$ = 1024.31, $p<$ .001, partial η^2 = .01, small effect size; TAKS Reading Objective 2, $F(1, 222158)$ = 1900.96, $p<$ .001, partial η^2 = .03, small effect size; and TAKS Reading Objective 3,

$F(1, 222158)$ = 2292.04, $p<$ .001, partial η^2 = .03, small effect size.

Scheffe` post hoc procedures revealed that statistically significant differences were present among ethnic/racial groupings for all three Reading Objectives, with one exception. White and Asian students did not differ in their average scores on Reading Objective 3. For the eight questions related to Reading Objective 1 and the 11 questions related to Reading Objective 2, average scores were highest for White students, followed by Asian, Hispanic, and then Black students. For the 18 questions related to Reading Objective 3,

average scores were highest for Asian students, followed by White, Hispanic, and then Black students. Readers are referred to Table 3 for the descriptive statistics for students' TAKS Exit Level ELA scores by Reading Objective and ethnic/racial grouping for the 2009-2010 school year.

Regarding the 2010-2011 school year, the MANOVA revealed a statistically significant overall difference, Wilks' Λ = .97, $p <$ .001, partial η^2 = .01, small effect size,by ethnicity/race in their assessed TAKS Exit Level Reading skills. Using Cohen's (1988) criteria, the effect size was small. Univariate follow-up analysis of variance procedures yielded statistically significant differences in student performance on TAKS Reading Objective 1, F (1, 221164) = 468.99, $p <$ .001, partial η^2 = .01, small effect size; TAKS Reading Objective 2, F (1, 221164) = 1092.63, $p <$ .001, partial η^2 = .02, small effect size; and TAKS Reading Objective 3, F (1, 221164) = 1419.10, $p <$ .001, partial η^2 = .02, small effect size.

Scheffe` post hoc procedures revealed that statistically significant differences were present among ethnic/racial groupings for all three Reading Objectives, with two exceptions. Asian students did not differ in their average scores from the average scores of Black and Hispanic students on Reading Objective 1. Of the 37 questions on the assessment contained in these three Reading Objectives, average scores were highest for White students, followed by Asian, Hispanic, and then Black students. For the eight questions related to Reading Objective 1, the 11 questions related to Reading Objective 2, and the 18 questions related to Reading Objective 3, results were similar. Readers are referred to Table 4 for the descriptive statistics for students' TAKS Exit Level ELA scores by Reading Objective and ethnic/racial grouping for the 2010-2011 school year.

Table 4: Descriptive Statistics for TAKS Exit Level English Language Arts Scores by Reading Objective and by Ethnicity/Race for the 2010-2011and 2011-2012 School Years

School Year, Reading Objective, and Ethnicity/Race	n	M	SD
Reading Objective 1			
White	85,319	7.46	1.46
Hispanic	103,110	7.21	1.57
Black	26,250	7.18	1.65
Asian	6,489	7.23	1.97
Reading Objective 2			
White	85,319	8.60	1.86
Hispanic	103,110	8.12	2.01
Black	26,250	8.04	2.09
Asian	6,489	8.34	2.43
Reading Objective 3			
White	85,319	13.66	2.85
Hispanic	103,110	12.86	3.07
Black	26,250	12.61	3.21
Asian	6,489	13.42	3.77
2011-2012			
Reading Objective 1			
White	84,517	7.23	1.49
Hispanic	110,517	6.93	1.59
Black	26,903	6.84	1.65
Asian	7,184	7.14	1.81
Reading Objective 2			
White	84,517	8.92	1.83
Hispanic	110,517	8.51	1.91
Black	26,903	8.47	2.00
Asian	7,184	8.79	2.22
Reading Objective 3			
White	84,517	13.88	2.87
Hispanic	110,517	13.20	3.06
Black	26,903	12.93	3.18
Asian	7,184	13.73	3.53

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Finally, in the 2011-2012 school year, the MANOVA revealed a statistically significant overall difference, Wilks' $\Lambda = .99$, $p < .001$, partial $\eta^2 = .01$, small effect size, by ethnicity/race in their assessed TAKS Exit Level Reading skills. Using Cohen's (1988) criteria, the effect size was small. Univariate follow-up analysis of variance procedures yielded statistically significant differences in student performance on TAKS Reading Objective 1, $F(1, 229117) = 751.01$, $p < .001$, partial $\eta^2 = .01$, small effect size; TAKS Reading Objective 2, $F(1, 229117) = 843.84$, $p < .001$, partial $\eta^2 = .01$, small effect size; and TAKS Reading Objective 3, $F(1, 229117) = 1116.25$, $p < .001$, partial $\eta^2 = .01$, small effect size.

Scheffe` post hoc procedures revealed that statistically significant differences were present by ethnicity/race for all three Reading Objectives. Of the 37 questions on the assessment contained in these three Reading Objectives, average scores were highest for White students, followed by Asian, Hispanic, and then Black students. For the eight questions related to Reading Objective 1, the 11 questions related to Reading Objective 2, and the 18 questions related to Reading Objective 3, results were similar. Readers are referred to Table 4 for the descriptive statistics for students' TAKS Exit Level ELA scores by Reading Objective and ethnic/racial grouping for the 2011-2012 school year.

IX. Discussion

The extent to which differences were present in the reading skills of Texas high school students as a function of ethnicity/race was examined in this investigation. Eight years of statewide data on three TAKS Exit Level ELA Reading Objectives were analyzed by ethnicity/race. In each school year, statistically significant results were present. Following these statistical analyses, the presence of trends for the three reading skill objectives by ethnicity/race was determined. Results will be summarized in the next section.

Reading Objective 1: Basic Understanding of Texts

Reading Objective 1 contained eight questions on the TAKS Exit Level ELA assessment during each of the 2004-2005 through 2011-2012 school years. Asian students scored higher on Reading Objective 1 than White, Hispanic, and Black students during the 2004-2005 through the 2006-2007 school years. White students scored higher on Reading Objective 1 than Asian, Hispanic, and Black students during the 2008-2009 through the 2011-2012 school years. Hispanic students scored higher on Reading Objective 1 than Black students in each year of the 8-year span. Carpenter, Ramirez, and Severn (2006) referred to this multi-layered achievement gap as a "stair-step of achievement" (p. 117).

Reading Objective 2: Apply Knowledge of Literary Elements and Techniques

Reading Objective 2 contained 11 questions on the TAKS Exit Level ELA assessment during each of the 2004-2005 through 2011-2012 school years. Asian students scored higher on Reading Objective 2 than White, Hispanic, and Black students during the 2004-2005 through the 2006-2007 school years, and again in the 2008-2009 school year. White students scored higher on Reading Objective 2 than Asian, Hispanic, and Black students during the 2007-2008 school year and again during the 2009-2010 through the 2011-2012 school years. Hispanic students scored higher on Reading Objective 2 than Black students in each year of the eight year span. Again, the "stair-step of achievement" mentioned by Carpenter et al. (2006, p. 117) aligns with these results.

Reading Objective 3: Analysis and Critical Evaluation of Texts

Reading Objective 3 contained 18 questions on the TAKS Exit Level ELA assessment during each of the 2004-2005 through 2011-2012 school years. Asian students scored higher on Reading Objective 3 than White, Hispanic, and Black students during the 2004-2005 through the 2009-2010 school years. White students scored higher on Reading Objective 3 than Asian, Hispanic, and Black students during the 2010-2011 and 2011-2012 school years. Hispanic students scored higher on Reading Objective 3 than Black students in each year of the eight year span. Finally, the "stair-step of achievement" is again relevant when analyzing the data from Reading Objective 3 (Carpenter et al., 2006, p. 117).

a) Connection with Existing Literature

When reading achievement is analyzed, differences by ethnicity/race exist (Ang, 2014; Hawley & Nieto, 2010; Lee, 2002; U.S. Department of Education, 2000). Various reasons exist related to the achievement gap in reading by ethnicity/race, including differing cultural norms leading to students' poor reading skills at an early age (Ang, 2014; Lee, 2002; Reardon & Galindo, 2008). Differences by ethnicity/race have been analyzed for decades and trends have developed in which students and parents rely solely on the school for reading assistance, or place high importance on supporting the local school (Davis-Kean & Sexton, 2009; Reardon et al., 2013). Differences by ethnicity/race are apparent in reading at many levels of education, including affecting college readiness (Barnes & Slate, 2014). Specified in this investigation was the effect of ethnicity/race on three reading objectives. Results of this research investigation are commensurate with the findings of other researchers (Ang, 2014; Hawley & Nieto, 2010; Lee, 2002; U.S. Department of Education, 2000) who have documented the presence of lower

reading achievement scores for Black and Hispanic students, when compared to Asian and White students.

b) Implications for Policy and Practice

Asian and White students outperformed Hispanic and Black students on TAKS Exit Level ELA assessments and on all three Reading Objectives for the 2004-2005 through the 2011-2012 school years. Although ethnicity/race is not commonly regarded as having a negative influence on academic achievement in reading, it is evident in the analysis of these students reading scores in this longitudinal investigation that certain ethnic/racial groupings of students consistently perform lower than others. As such, an ethnic/racial achievement gap exists and because of detailed data recording and analysis programs, state and local education agencies are fully aware and have been for decades of the disturbing ethnic/racial achievement gap.

According to current state accountability indexes, to be considered eligible for meeting the required standards, student subpopulations in a district or campus must show progress on state assessments. Districts and campuses are not only evaluated on overall performance of students, but also on the two largest minority ethnic/racial student groups on campus. Closing the achievement gap between student subpopulations is measured annually and assessed on the school's report card and publicized in local media entities. Proper progress monitoring and targeted intervention for struggling ethnic/racial student groupings is essential for meeting state accountability requirements.

To meet students' instructional needs, teachers are required to be highly qualified and certified in Reading. However, teachers in Texas are not required to obtain a Reading certification in secondary grades (7-12). Many teachers on elementary campuses have a Reading certification and most campuses hire a Reading Specialist who works with teachers and students to close existing achievement gaps. As students move to Grade 7 and above, many schools do not have the literacy resources to provide adequate interventions and reading gapswiden. Although programs such as Response to Intervention provide a framework and flowchart for how struggling readers are to receive targeted intervention, the teachers tasked with implementing the interventions are not properly trained to teach basic reading skills. Local districts could provide effective research-based professional development to teachers related to teaching basic reading skills to secondary students.

c) Suggestions for Future Research

Examined in this study was the relationship between ethnic/racial groupings and the reading performance of each group as determined by the TAKS Exit Level ELA assessment. Results from this investigation could provide a groundwork for future researchers to expand this study by examining other content areas. Additionally, other grade levels could be examined as the TAKS assessments were administered to students in Grades 3-8 from 2002-2003 through 2011-2012. Reading performance of elementary students could be examined to determine the degree of the ethnic/racial achievement gap as students begin annual required state assessments. Moreover, in a more exhaustive study, the ethnic/racial achievement gap in reading of elementary students in Texas compared to the ethnic/racial gap of secondary students could be conducted. Additional research regarding ethnic/racial groupings would be beneficial in examining the relationship between these students' reading skills and dropout rate, completion rate, and postsecondary opportunities. Students are more likely to not complete high school if they struggle to read below grade level expectations (Benner et al., 2011). Students who do not graduate from high school could face the reality of severely diminished postsecondary employment opportunities.

The newer STAAR (State of Texas Assessment of Academic Readiness) could be considered as a source of assessment data for future investigations. Reporting and accountability of STAAR test results was inconsistent during the first three years of its existence. Scores from the STAAR assessments may yield valid data from which researchers can gather and interpret to determine whether statistically significant results exist between ethnic/racial groups. In this investigation, statistically significant differences were evident among reading skills of ethnic/racial groupings. Readers are encouraged to analyze further the relationship between reading skills and ethnicity/race. Other variables that could be considered if differences exist would be between gender groups and economic groups.

X. Conclusion

The purpose of this research study was to determine the extent to which differences were present in the reading achievement of Texas high school students as a function of ethnicity/race. After obtaining and analyzing eight school years of Texas statewide data, statistically significant differences were revealed in the reading achievement of ethnic/racial groupings. In each school year between 2004-2005 and 2011-2012, Asian and White students had higher average reading scores than Hispanic and Black students. Reading scores for Asian and White students were closely aligned and almost identical across the 8- year time span. Hispanic students outperformed Black students across all eight years of data.

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Sorrow, Blood and Tears as the Leitmotif in Contemporary Niger Delta: A Study of Selected Poems in Magnus Abraham-*Dukuma's Dreams from the Creeks*

By Tambari Ogbnanwii Dick

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Abstract- African literary discourse has shown its inherent aesthetics by giving meaning to its contents. This aesthetics revolves around the experiences of Africans as a people, which include among others, their environment, culture, socio-political and economic marginalization. Dreams from the Creeks is aesthetically structured to resonate the many unheard voices of the down-trodden people of the Niger Delta who have been suffering from political and economic deprivation over the decades, coupled with the environmental degradation resulting from oil exploration and exploitation. The language is expressed to effectively portray the lifestyle of the people thus adding beauty to an emotive discourse as a way of giving an explicit meaning to the contents as a way of soothing the psychological pain inflicted on their psyche. As a Romantic poetry, it expresses the nostalgia of human being as a result of man's dislocation from Nature, or better still, mother Earth.

Keywords: ecosystem, environment, ecocriticism, ecopoetic.

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SORROWBLOODANDTEARSASTHE LEITMOTIFIN CONTEMPORARYNIGERDELTAASTUDYOFSELECTED POEMSINMAGNUSABRAHAMDUKUMASDREAMSFROMTHECREEKS

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Abstract- African literary discourse has shown its inherent aesthetics by giving meaning to its contents. This aesthetics revolves around the experiences of Africans as a people, which include among others, their environment, culture, socio-political and economic marginalization. *Dreams from the Creeks* is aesthetically structured to resonate the many unheard voices of the down-trodden people of the Niger Delta who have been suffering from political and economic deprivation over the decades, coupled with the environmental degradation resulting from oil exploration and exploitation. The language is expressed to effectively portray the lifestyle of the people thus adding beauty to an emotive discourse as a way of giving an explicit meaning to the contents as a way of soothing the psychological pain inflicted on their psyche. As a Romantic poetry, it expresses the nostalgia of human being as a result of man's dislocation from Nature, or better still, mother Earth.

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I. Introduction

Literature, it is assumed, has become the mouthpiece of the hopelessly marginalized people around the globe. It has also through its various "fragmented pieces", mirrored the different segments of a deprived society. *Dreams from the Creeks,* has beamed its searchlight on the pitiable living condition and the abuse of the entire Niger Delta region by those holding it by the jugular due to its economic viability. The unbridled desire by the *nouveau riche* Nigerians to exploit the 'black gold' which is the mainstay of the nation's economy has made the people of the region an endangered species due to environmental degradation. This has been aptly captured by committed writers who believe that natural resources in a region should rather be a blessing to the people instead of a curse. This paper is an effort to provide the reader with an ecological consciousness through an ecocritical study of Magnus Abraham-Dukuma's selected poetry to prove Bate's saying that "poetry is the place where we save the earth" (283). Ecocriticism is the study of literature and the environment from an interdisciplinary point of view where literary texts which illustrate the environmental concerns are analyzed and examined in the various ways literature treats the subject of nature. It is the écopoetics approach which deals with the environmental and literary criticism

There have been avalanche of literary works from the Niger Delta region with direct focus on the destruction of the ecosystem. Like his contemporaries who themselves have decried the destruction of the ecosystem and environmental degradation due to oil exploration, Abraham-Dukuma's focus is on the social implications in terms of the people's reaction in the face of this " death by instalment". Other writers in the region have equally embraced the challenge, thereby producing works that form a tradition within the larger corpus of Nigerian literature in English just like the literature on the Nigerian civil war. For instance, the novelists: Chukwuemeka Ike, I.N.C Aniebo, Elechi Amadi, Kaine Agary; the poets: Ibiwar Ikiriko, Niyi Osundare, Tanure Ojaide, Obari Gomba and Sophia Obi have all produced provocative works in this tradition, the tradition that focuses on oil exploration and environmental pollution in the Niger Delta as issues of literary discourse. *Dreams from the Creeks* also lends a voice to the avalanche of artistic literary composition decrying the 'sorry' state of affairs in the oil-rich Niger Delta.

a) Sorrow, Blood and Tears in Abraham-Dukuma's Dreams from the Creeks

When we return to the concept of poetry and the usefulness or the uselessness of the poets to the private and public lives of the individuals, in line with Pato and Aristotle's views about poets, one may wonder whether poets and poetry could be of any use in the modern society. This will indeed bring us back to Bate's view that "poetry is where we save the earth".

The opening poem, "Invitation" is a tearful call for an eye-witness of the deplorable condition of the people who were once living a happy and fulfilled life despite their penury. But now those things that gave them life have been destroyed: the flora and the fauna. "Come, see the lacerations on these path/come, see the

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gruesome guests on these lands". The "eye-witness" is employed to do a fair and timely judgment of the situation, "A river of blood flows through these hearts, judge fairly and timely." "Witnesses" echo their observation:

We'e seen
We' heard
We've felt
We've smelt (15).

They came, saw, heard, felt and smelt what they were invited to witness. They witnessed a land devastated, lacerated, and poisoned. In line 3 of "Witnesses", there is a tone of hope; the very cherished attribute of every Niger Deltan – hope. This is expressed when they say:

We'll keep watching and waiting
For a haven of consolation,
For a music of salvation,
For a caress of fortune
For the breath of good air
We'll keep watching and waiting. (15)

But the question is how long are we going to keep watching and waiting when the people die daily from "poisoned rivers and poisoned air". The land that was once filled with the beauty of nature (flora and fauna) is now a mining field. "Mining field" is a dead and barren field. However, the "dead" field, because a mining field has no life in it, is an oil field for the exploiters, but of pain for the exploited. Two sets of people are found on the mining field: those who mine for liquid gold and those mining poverty:

Some are mining oil
Some have mined penury
Some mined pains
Some have mined rifts
Some have mined death
Some are mining dreams. (17)

"Mining Penury" has been the lots of the people of the region over the decades. Abraham–Dukuma in a flashback, chronicles the losses of the people which he describes as "countless shadows of stabs", "sour reminiscence of dead days" and "counted shadows of sad memories". "Chronicles" is a compendium of the natural beauties that was once the music and breath of the habitats, but now has been polluted through man's insatiable crave for wealth. Nature was inflicted with deep cuts, which left un-healing sores on the people psyche. A place that was once the virginity of space and pristine of beauty is now "shows of sad memories" because virtues are dead and vice borne.

Obari Gomba in "The World Has Cotton in Its Eyes" takes a look at the people of Niger Delta with deep feeling. He weeps for the children of Niger Delta (Oloibiri and Ogoni as symbols) that eat dust for food. But in Lagos, Abuja, Washington, and London, the same oil that results in the children eating dust "lubricates power and sex", while soldiers and hangmen become the agents of calm. And in the words of Alamieyeseigha, the region is the goose that lays the golden egg, "yet the Niger Delta remains pervasively poor and underdeveloped lacking virtually all forms of social amenities and infrastructure." This corroborates Sophia Obi's poem "Oloibiri" in which she describes Niger Delta, which Oloibiri represents as, "Desolate like a gloomy attire". In spite of all the atrocities committed against the people and the region, the poet does not call for anarchy amongst the oppressed, but rather a word of consolation for the soul and the mind. In "Weep not", the poet states:

Weep not my soul! Weep not!
Bleed not my heart! Bleed not!
Flow not my eyes! Flow not!
Burst not my mind! Burst not!
And for this evil done my land, weep not my soul…. (22)

Oloibiri, which is the centre of oil wealth in Nigeria is nothing but "a wealthy aged whore". More than fifty years after oil was first struck in Oloibiri, there is nothing to show that it actually laid the "golden egg"; it has no access to it, but in spite of these words of consolation, deluge of tears flood Oloibiri and run through the entire Niger Delta. In "Tears from Oloibiri", the poet creates a persona in Oloibiri to tell the world of all it has gone through as the consequence of oil exploration:

I am Oloibiri
I have lost my essence
I breathe a morbid hybrid air
Sores and death slyly stare
Legions had thronged to drink my milk.
Now I am ravished, forlorn, weak and sick. (35)

This is what happens to every mother who after several births and breast feeding is neglected by the children. While they wine and dine, the giver of such life is left in "squalor and filth", "decay and putridity". And so neglected she resigns to fate. "Ode to Oloibiri" portrays the pitiable condition and the total neglect visited on the historical home of the nation's wealth. The persona points out those injuries and injustices it has suffered over the years in spite of the "goose eggs" that are food for the nation and beyond, yet it is still "malnourished and pale" after being milked dry. The persona vows to tell one of the world's richest producers of oil, Qatar, what one of them is going through in Africa, that rather than enjoying a paradise on earth like Qatar, Oloibiri is a paradox:

I will tell Qatar your tale
I will tell her your paradox
I will tell your story
I will always remember you:
Qatar must be surprised

She could weep for you too,
As I have wept daily. (40)

Qatar is a symbol of wealth and health, of fulfillment and proper utilization of natural resources. Qatar would be surprised that a region, which shares similar nature's gift is a curse to its inhabitants rather than blessing.

In "Testaments", we see an unfolding scenario of injustice as witnessed in the process of our everyday legal system. A testament of injustice and deprivation of human rights. A reflection of the reality of the plights of the people of Niger Delta who are subjected to a process of illegality in a bid to muffle their agitations for greater attention towards the colossal damage done to the environment:

Boro:

Hear my cause,
Then lay your curse;
I am a man of Kaiama,
A town with a unique trauma
Kaiama, like Oloibiri, neglected
Lands and humid creeks dejected
Creeks despoiled and left to stink,
Lands killed and left to sink,
Fishes put out of age-long toil,
With hearts and stomachs left to boil,
Farmers left with void hands
Hungry stomachs and weeping lands.

State Prosecutor:

Objection! Pittance! Pittance!
Please do him riddance

Advocate:

Objection, my revered Lord!
The accused spoke no foul word.

But in spite of the defence, the flawed legal system failed to dispense justice in order to please their pay-master, instead the judge dispenses with one Niger Delta agitator (Boro) and calls for another (Saro-Wiwa) whose case he wishes to also summarily dismiss:

Honourable Justice Judge
(Hitting the gavel)

We're done with Boro
Let us now have Saro (54-57).

When the accused steps in the dock, he speaks also of the monumental ecological damage that has affected his people. He describes this as a "sword":

Saro:
(Speaking with melancholy inflection and subs)

"Tis the sword of devastation
"Tis the sword of desolation
Our lands… raped and spoilt
Our creeks… poisoned and spoilt
All because of our black gold

We have had ordeals untold
Our oil: our blessing, our curse,
Daily our tale has become worse
… I spoke for my people in humble defence
I spoke not with the triggers witlessly stem
But I spoke with the nobility of my pen (63-64).

Sadly, in the face of injustice and miscarriage of justice in a system where vice is virtue, the accused are condemned for speaking out against injustice and violence visited on the people and the environment through oil exploration. To Boro, the Honourable Justice Judge's verdict reads thus:

You shall die by the furtive cryptic cruel,
Mystery shall shroud your eternal sleep
Then you shall be thrown to the obscure sleep
And to Saro, he pronounces:
To the earth your corpse will be fed
After you've been hung by the neck until you be dead.

However, decades after the death of these sons of Niger Delta, the issue of environmental degradation still graces the front-page of our dailies, and each successive government has been more concerned with the prices of oil on the international markets than the slow death of the masses, massive poverty in the region, and the clean-up of the land, which has become imperative.

Violence, they say, begets violence. The violent scenario in the Niger Delta is only a fall-out from the total neglect and violence visited on the people by the power that be and the agents of oil exploration. This scenario is aptly captured and recast in "Black marketers". In the recent past, the issue of militancy pervaded the life of every inhabitant in the Niger Delta region, but today, it is pipeline vandalism, which the government in power refers to as economic sabotage, while the personae sees it as the only way open to the people to access their God-given resources for survival. We hear the echo of environmental pollution and economic deprivation with an appeal to whoever that sits in judgment to judge fairly:

Hear our cause and judge fairly;
Our farmlands are despoiled
The earth got angry
Our crops withered away
We became jobless
Our creeks were poisoned,
Our fishes died,
Our creeks starks
We become jobless. (36)

As if this is not enough hardship, the crops, the fishes and the jobs are "turned" into black liquid running through gigantic pipes criss-crossing the land, creaking huts and thatches, desecrating even the ancestral resting places, through bushes to make "paradise" far away:

"Our bushes are still bushes
Yet we're the source of the wealth".

When tears are not noticed and words are not taken seriously, the personae still passionately appealing for justice resort to helping themselves with the readily available resources:

So we rattled the trigger and bored the pipes;
Now, we sell our brackish black crude,
Now, we sell in spite of our marauders,
Now, wield your gavel as you will
Also remember the pen robbers (36)

This is the consequence of the grave silence by the powers that be over the fate and future of the inhabitants of Niger Delta. They have borne their sorrows, spilt their blood and shed tears for too long. Or would the region perpetually remain the goose without a gosling and a goose whose eggs are hatched by someone else? If this injustice be sustained, then the "Dream Delta", of luxury beauty and replete with silver will forever remain a mirage.

II. Conclusion

Magnus' "proto-ecological" poems provide the modern man, who lives in a world haunted by fragmentations, capitalist tendency, and illusory shadows of reality and technology, with a clearer view to witness the interconnectedness and interdependence of man and Nature in a vast ecosystem. Artistic imagination, no doubt, plays a dominant role in helping the artist to express his pure feelings and emotions, he also has a firsthand experience as a member of the society as so encapsulated in his poetry, hence his ability like William Wordsworth, to express his ideas of the dislocation of man from his ideal localities. This is as a result of man insatiable quest for better life through the use of technological advancement that threatens the ecology. Oil exploration remains for now the major technological advancement that adversely affects the environment.

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The Praxis of Learning Analytics for a Conceptual Open Textbooks System

By Ayse Kok

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Abstract- Textbook costs have skyrocketed in recent years, putting them beyond the reach of many students, but there are options which can mitigate this problem. Open textbooks, an open educational resource, have proven capable of making textbooks affordable to students. There have been few educational development as promising as the development of open textbooks to lower costs for students. While the last five years have witnessed unparalleled interest and significant advances in the development and dissemination of open textbooks, one important aspect has, until now, remained unexplored: the praxis of learning analytics for extracting information regarding how learners interact and learn with open textbooks, which is crucial for their evaluation and iterative improvement process.

Learning analytics off ers a faster and more objective means of data collection and processing than traditional counterparts, such as surveys and questionnaires, and—most importantly—with their capability to provide direct evidence of learning, they present the opportunity to enhance both learner performance and environment.

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Learning analytics offers a faster and more objective means of data collection and processing than traditional counterparts, such as surveys and questionnaires, and—most importantly—with their capability to provide direct evidence of learning, they present the opportunity to enhance both learner performance and environment. With such benefits on offer, it is hardly surprising that the optimism surrounding learning analytics is mounting. However, in practice, it has been pointed out that the technology to deliver its potential is still very much in its infancy, which is true in the case of open textbooks. Within this context, the main aim of this study is to develop a conceptual prototype for a learning analytics system to track individual learners' online and offline interactions with their open textbooks in electronic publication (EPUB) format, and to present its developmental work as building blocks for future development in this area. This paper concludes with a discussion of the practical implications of this work and presents directions for similar future work.

Keywords: open textbooks, learning analytics, open textbook analytics system, open educational resources, epub.

I. Introduction

It is no longer a secret—if, indeed, it ever was—that escalating textbook costs are putting them beyond the affordability of many students. Senack (2014) in a survey of 2,039 university students, reported that 65% of students had no other choice than opting out of buying a textbook due to expense, and of those students, 94% admitted that doing so would negatively affect their grade in that course. These findings are representative of several other studies (see, for example, Acker, 2011; N. Allen, 2011; Florida Virtual Campus, 2012; Graydon, Urbach-Buholz, & Kohen, 2011; Morris-Babb & Henderson, 2012; Prasad & Usagawa, 2014), showing

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that affordability of traditional textbooks has become more difficult for many students and thus, in some cases, a barrier to learning.

Despite the problems outlined above, there is no indication that textbook prices will decrease in the foreseeable future; on the contrary, trends point to further increases. However, fortunately, open textbooks hold promise to provide a solution. Weller (2014) appraises open textbooks, a type of open educational resource, as one most amenable to the concept of open education, a concept essentially about elimination of barriers to learning (Bates, 2015). The phrase *open educational resource* (OER) is an umbrella term used to collectively describe those teaching, learning, or research materials that can be used without charge to support access to knowledge (Hewlett, 2013a). Within the OER context, "freely" means both that the material is openly available to anyone free of charge, either in the public domain or released with an open license such as a Creative Commons license; and that is made available with implicit permission, allowing anyone to retain, reuse, revise, remix, and redistribute the resource (Center for Education Attainment and Innovation, 2015). Conversely, traditional textbooks are extremely expensive and are published under an All Rights Reserved model that restricts their use (Wiley, 2015).

Within the past few years a growing body of literature has examined the potential cost savings and learning impacts of open textbooks. Senack (2014), for example, in a survey of 2,039 university students indicated that open textbooks could save students an average of $100 per course. Similarly, Wiley, Hilton, Ellington, and Hall (2012) in a study of open textbook adoption in three high school science courses found that open textbooks cost over 50% less than traditional textbooks and that there were no apparent differences (neither increase nor decrease) in test scores of students who used open versus traditional textbooks, a finding replicated by Allen, Guzman-Alvarez, Molinaro, and Larsen (2015). This latter finding is in contrast with the findings of Hilton and Laman (2012), who reported that students who used open textbooks instead of traditional textbooks scored better on final examinations, achieved better grades in their courses, and had higher retention rates. A study by Robinson, Fischer, Wiley, and Hilton (2014) also suggests that students who used open textbooks scored as well as, if not slightly better than, those who used traditional textbooks. All in all,

these studies have put forth evidence showing that replacing traditional textbooks with open textbooks substantially reduces textbook costs without negatively affecting student learning. Consequently, demand for open textbooks is increasing.

As demand has grown, so too have efforts to develop and distribute open textbooks. Many of these development and distribution practices are accomplished through a combination of government, private, and philanthropic funding (Hewlett, 2013b). The amount of money injected into such projects is significant, and therefore funders, besides requiring usual information about impacts on cost and learning outcomes, are now also increasingly asking for more rigorous information regarding ways—whether, when, how often, and to what degree—in which learners actually engage with their open textbooks. More specifically, as stressed by Stacey (2013), grant recipients are excepted to use such data and evidence to plan and evaluate open textbook implementation and to establish effectiveness of learning designs so as to enable respective adjustments to optimize learning (p. 78). According to Hilton (2016), such information is crucial to help clarify what effects the "open" aspect of open textbook has on learning, as well as to reveal whether and how open textbooks produce improvement in educational outcomes. Considered together, these voices indicate an overall need for new information to advance current understanding of how students learn with open textbooks so as to take appropriate actions to maximize learning.

The above discussion points to the need for more sophisticated methods of monitoring open textbook utilization in order to meet these information needs. New analytical methodologies—particularly learning analytics—have made fulfilling this requirement possible. Compared with more subjective research methods such as surveys and questionnaires, learning analytics can capture learners' authentic interactions with their open textbooks in real time. This may improve understanding of textbook usage influences on actual usage behavior, which in turn may help improve efficiency and effectiveness of open textbooks. The method can be used either as a standalone method or to support other traditional research methods. Moreover, learning analytics for open textbooks can provide new insights into important questions such as how to assess learning outcomes based on textbook impact; whether student behavior, content composition, and learning design principles produce intended learning outcomes; and the level of association between amount of markups done and the relevance and difficulty level of the book content areas.

Despite these great potential benefits, so far there exist no studies published to date on systems developed for open textbooks learning analytics. Thus, the main aim of this paper is to close this gap by presenting developmental work and functionalities of a conceptual open textbooks learning analytics system. A distinctive feature of this proposed system is its ability to synchronize online and offline interactional data on a central database, allowing both instructors and designers to generate analysis in dashboard-style displays.

The remainder of this paper is organized in the following manner. It starts with a brief review of literature related to learning analytics, followed by a summary of the framework that guided our development. Next, it describes techniques and tools applied in development of the conceptual learning analytics system for open textbooks, which is the main focus of this paper. The final section concludes the paper and talks about future work.

II. Literature Review on Learning Analytics

The concept of learning analytics has been making headlines for some years now, firing up interest amongst the higher educational community worldwide, but its definition remains unified. One frequently cited definition is "the measurement, collection, analysis and reporting of data about learners and their contexts, for the purposes of understanding and optimizing learning and the environments in which it occurs" (Siemens & Long, 2011, p. 34). In other words, learning analytics applies different analytical methods (e.g., descriptive, inferential, and predictive statistics) to data that students leave as they interact with and within networked technology-enhanced learning environments so as to inform decisions about how to improve student learning. A survey of published research shows that learning analytics tactics have been applied in a variety of ways and found useful, some of which include identifying struggling students in need of academic support (Arnold & Pistilli, 2012; Cai, Lewis, & Higdon, 2015; Jayaprakash, Moody, Lauría, Regan, & Baron, 2014; Lonn, Aguilar, & Teasley, 2015; Macfadyen & Dawson, 2010); assessing the quality of online postings and debate (Ferguson & Shum, 2011; Ferguson, Wei, He, & Shum, 2013; Nistor et al., 2015; Wise, Zhao, & Hausknecht, 2014); visualizing usage behaviors, patterns, and engagement levels (Cruz-Benito, Therón, García-Peñalvo, & Lucas, 2015; Gómez-Aguilar, Hernández-García, García-Peñalvo, & Therón, 2015; Morris, Finnegan, & Wu, 2005; Scheffel et al., 2011); sending automated motivational and informative feedback messages (McKay, Miller, &Tritz, 2012; Tanes, Arnold, King, & Remnet, 2011); intelligent tutoring systems (Brooks, Greer, &Gutwin, 2014; Lovett, Meyer, & Thille, 2008; May, George, &Prévôt, 2011; Roll, Aleven, McLaren, & Koedinger, 2011); recommender systems for learning (Liu, Chang, & Tseng, 2013; Manouselis, Drachsler, Vuorikari, Hummel, & Koper,

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2011); provoking reflection (Coopey, Shapiro, & Danahy, 2014); improving accuracy in grading (Reed, Watmough, & Duvall, 2015); and contributing to course redesign (Fritz, 2013).

Given the benefits and opportunities offered by learning analytics, researchers and practitioners have expressed concern about the importance of maintaining the privacy of student data. As Scheffel, Drachsler, Stoyanov, and Specht (2014) emphasize, the nascent state of learning analytics has rendered "a number of legal, risk and ethical issues that should be taken into account when implementing LA at educational institutions" (p. 128). It is common to hear that such considerations are lagging behind the practice, which indeed is true. As such, many individual researchers, as well as research groups, have proposed ethical and privacy guidelines to guide and direct the practice of learning analytics. In June 2014, the Asilomar Convention for Learning Research in Higher Education outlined the following six principles (based on the 1973 Code of Fair Information Practices and the Belmont Report of 1979) to inform decisions about how to comply with privacy-related matters on the use of digital learning data.

1) respect for the rights and dignity of learners,
2) beneficence,
3) justice,
4) openness,
5) the humanity of learning, and
6) the need for continuous consideration of research ethics in the context of rapidly changing technology.

Similarly, Pardo and Siemens (2014) in the same year identified the following four principles:

1) transparency,
2) student control over data,
3) security, and
4) accountability and assessment.

Furthermore, in a literature review of 86 articles (including the preceding two publications) dealing withethical and privacy concepts for learning analytics, Sclater (2014) found that the key principles which their authors aspired to encapsulate were "transparency, clarity, respect, user control, consent, access and accountability" (p. 3).

In this context, it is worth noting that "a unified definition of privacy is elusive" (Pardo& Siemens, 2014, p. 442), just like the definition of learning analytics as noted earlier. While there is no unified definition of learning analytics and its privacy practices, there is general agreement that it is crucial for higher educational institutions to embrace learning analytics strategies as a way to improve student learning, but without violating students' legal and moral rights.

An overview of the conceptual foundation guiding the development of the system is outlined in the next section.

III. Conceptual Framework

Developmental work was guided by our earlier work proposed in (Prasad, Totaram, &Usagawa, 2016) describing a framework for development of an open textbooks analytics system, as shown in Figure 1. This framework supports textbooks in the EPUB format, a format that has become the international standard for digital books. EPUB file formats are actually advanced html text pages and image files that are compressed and then use a file extension of .epub. Notably, this framework is not specific to open textbooks but equally applicable to other EPUB digital books.
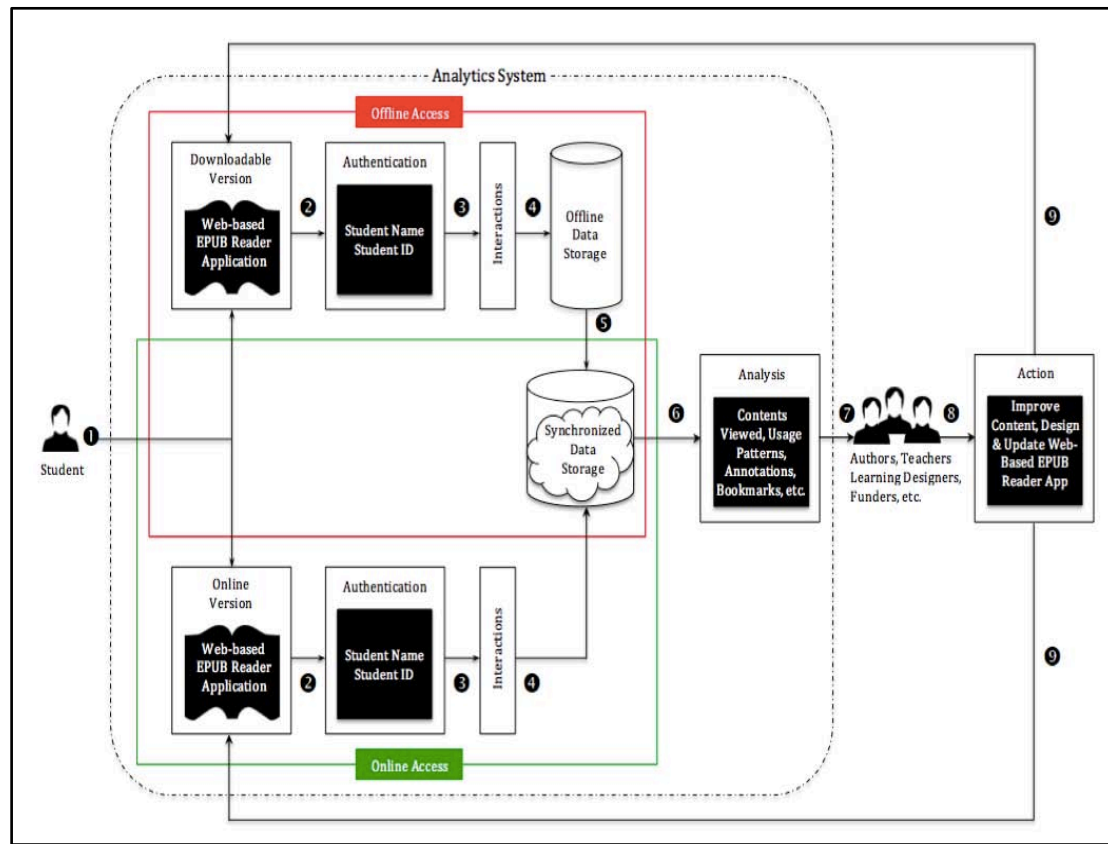
Figure 1: Open textbooks analytics system framework. Adapted from "A Framework for Open Textbooks Analytics System," by   D. Prasad, R. Totaram, and T. Usagawa, 2016, Tech Trends 1–6. doi:10.1007/s11528-016-0070-3.

As illustrated by Figure 1, the framework consists of a nine-step approach beginning with students' initial contact with the text. The figure also illustrates two separate branches of process flow, one for onlineaccess and the other for offline access. All nine steps depicted within the framework, including certain stage-specific mandatory technical requirements, are summarized stepwise as follows:

- A student may access an open textbook, which technically is the synthesis of web-based EPUB reader application, and .epub file of the book to ensure standardized data recording, in online mode, offline mode, or both ways.
- Authentication is optional. It may be useful for organizations that want to identify the learners, for early intervention or to gauge their performance or study their usage patterns, etc.
- Every interaction between a student and an open textbook produces data. These interactional data are records of students' actions with the textbook. Students' actions such as page navigation, jumping to a particular chapter, bookmarks, and annotation notes may be recorded in real-time with a time stamp and user device used.
- When textbooks are used in offline mode, interaction data are temporarily stored in the local

storage of the web browser that runs the EPUB reader application.
- As soon as the EPUB reader application detects an Internet connection, it sends all local offline interaction data to the central database.
- Analyses are done on the aggregated interaction data stored in the central database.
- Results of analyses are rendered to the stakeholders for consumption.
- Each stakeholder may take appropriate action on the basis of results.
- The textbook may be revised if required before being made available to the next batch of students.

System Development : Techniques and Tools

Based on the suggested framework presented above, this section describes methods applied and technologies used in the development of learning analytics system for open textbooks in EPUB format, and is divided into two subsections: data collection, and data analysis and presentation.

IV. Data Collection Data Recording

Reading books in EPUB format requires an EPUB reader application. In line with the suggestions of the framework, EPUB.js (https:// github.com/ futurepress

/epub.js), an open source web-based EPUB reader application, can be adopted and customized as a central tool to aid datacollection. EPUB.js previously possessed capabilities to record user clicks and annotation data in the local storage of the web browser used by the user to access the EPUB.js application. These capabilities were expanded to record and track a variety of other data, such as user's IP address, web browser type and version, and the type of device used. Following these modifications to the EPUB.js reader application, the EPUB file of the book was embedded into the reader application for standard data collection. Figure 2 represents the customized EPUB.js reader application's user interface. This customized version was used for both online and offline delivery. For online use, the customized EPUB.js reader application was hosted on a web server accessible via the Internet from any web browser. To facilitate offline access, an application installer was created for the Windows platform as the majority of users used Windows-based computers. This installer conveniently installed the customized EPUB.js reader application to the users' computers (Figure 3). However, offline access was limited to a particular web browser: Mozilla Firefox. This is because the customized EPUB reader application used Javascript to send user data to an external data storage server, which most web browsers blocked as a potential security risk. Thus, for offline access, the user interaction recording features were incompatible with most web browsers. Consequently, offline access of the EPUB reader application required the use of Mozilla Firefox (Figure 4). Further development is required to make the code compatible with other web browsers.
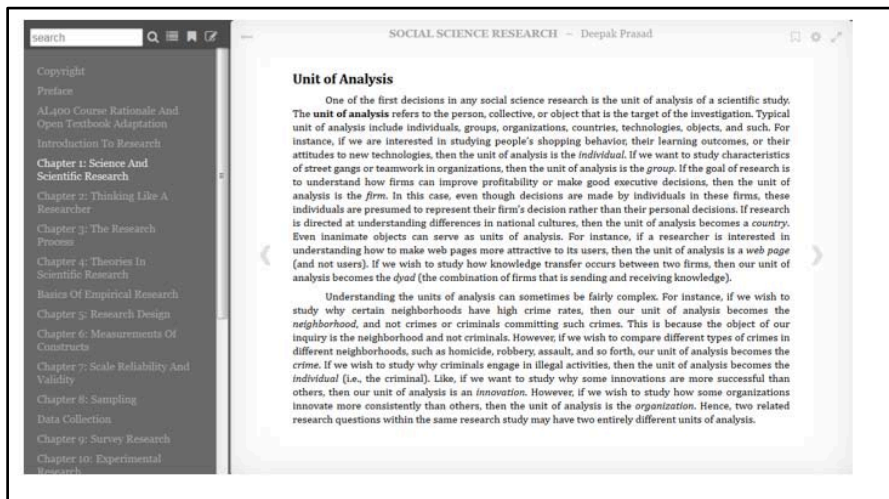
Figure 2: Customized EPUB.js reader user interface.
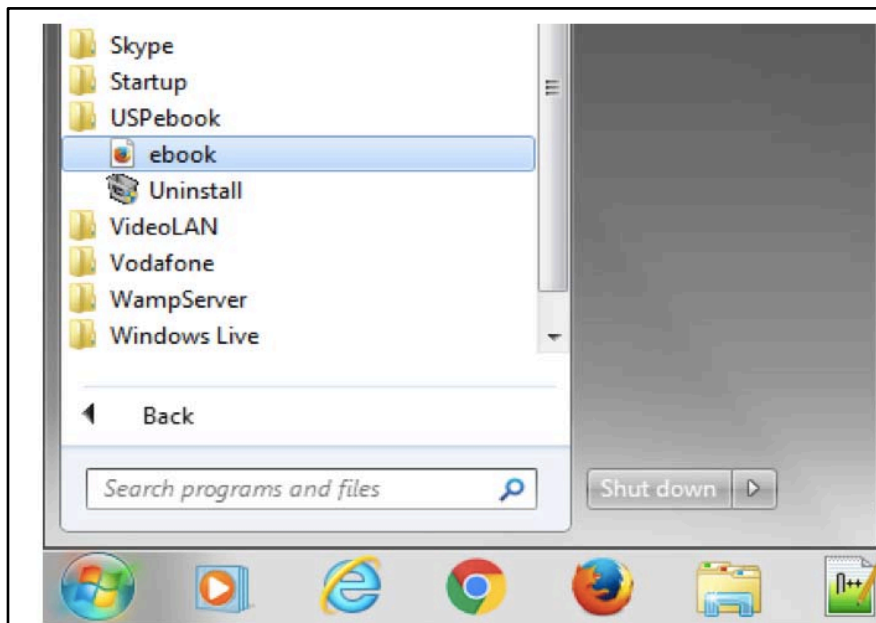
Figure 3: Textbook short cut from start menu.
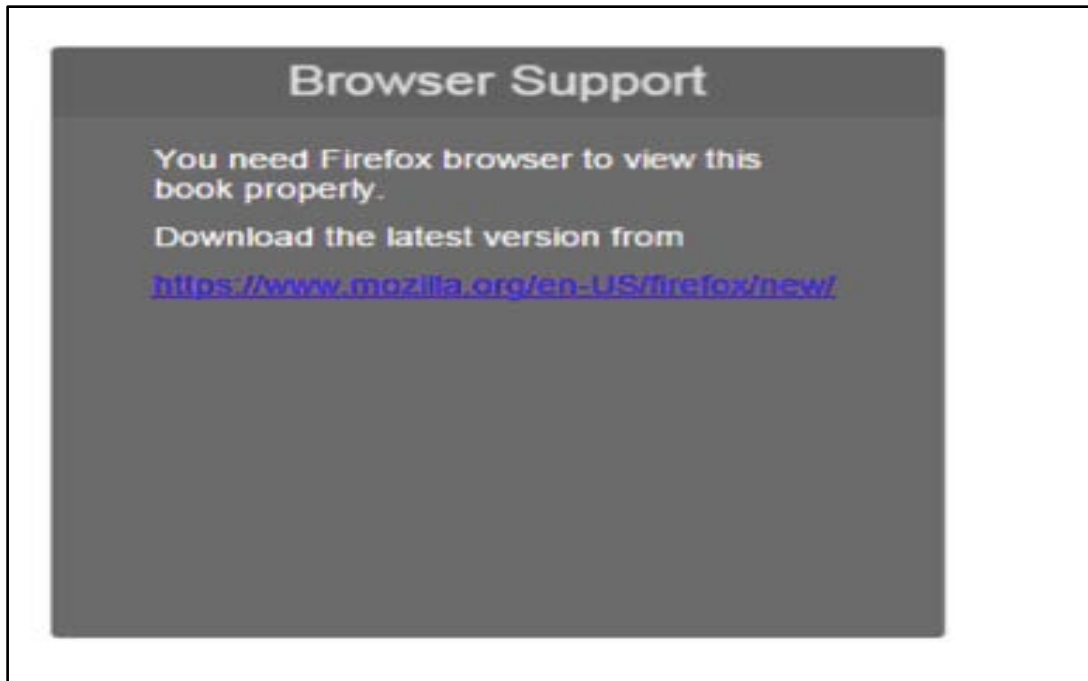
Figure 4: Required browser for offline access.

a) User authentication

A simple authentication system can be designed to distinguish and track unique users and their behavior. Figure 5 shows the sample of a suggested simple authentication interface. This can be considered the first screen shown when the customized EPUB.js application is initiated by the user, requiring the user to enter their name and student ID number. These credentials are stored in the local storage of the user'sbrowser, and all user-interaction data sent to the server (and subsequently processed) is tagged with the user's authentication details.

Figure 5: Sample Authentication interface

V. Data Synchronization

Data generated during offline usage are stored in the browser's local storage. For the purpose of synchronizing data from web browser's local storage to server, a network- sensing feature was integrated into the EPUB.js reader. This feature checks for an Internet connection at regular intervals (in our case, every 60 seconds) to determine if the user's device is connected to the Internet, and whenever an Internet connection is detected, data from the browser's local storage are sent to the central database server, where the data is used for analytics. However, when used in online mode, the interactional data is directly sent in a database.

VI. Data Storage

A central database server, a combination of a PHP script and MySQL database, can be used for data storage. The MySQL database is used to store data, while the PHP script waits for the interaction data to be received from the EPUB reader application. Once receiving new interaction data, the PHP script can validate and records it to the MySQL database. Table 1 shows sample data types recorded for each user interaction.

Table 1: Data Recorded for Each User Interaction

Field name	Comments
student_id	Unique ID to distinguish a user
student_name	Name of the user (optional)
chapter	Title of the chapter
type	Type of action – page view, jump to chapter, bookmark action,
	hyperlink click or annotation
url	URL of the book page
note	User notes/annotation
timestamp	Timestamp of user action
ip_address	IP address of the user's device, if accessing online
online_status	Flag to determine online/offline access
device	Type of device used to access book
browser	Web browser used to access book
epubdata	Additional data recorded by the epub reader application (for future use)

VII. Data Analysis and Presentation

Analysis can be performed on both individual and aggregate (whole class) data, and can be analyzed with regard to various factors as listed below.

- Total views per chapter, per student, or for whole class: This is the count of the number of page views for each chapter.
- Total bookmarks per chapter, per student, or for whole class: This is the count of the number of bookmarks made in each chapter.
- User annotations/notes made per chapter, per student, or for whole class: This is a list of all the annotations/notes made for each chapter.
- Links clicked per chapter, per student, or for whole class: This is the count of the links clicked in each chapter.

- Popular web browser used by the users to access the ebook: This is the count of each web browser used.
- Popular type of device used by the users to access the ebook: This is the count of each device type used.
- Online versus offline usage: This is the count of the all user interaction for online access and offline access.
- Number of students versus chapters viewed: This is the count of the number of students who viewed each chapter.
- viewed: This is the count of the number of students and the count of the number of chapters viewed by each student.

- Weekly user interaction: This is the count of the number of interactions by all users grouped by weeks.

The analysis and data presentation (graphic visualizations in dashboard format) can be done using PHP and a Javascript charting library. Computation of interaction data can be done using SQL queries, while the rendering (in dashboard display format) can be done using PHP with the help of a Javascript charting library. Figure 6 shows snapshot of the sample learning analytics dashboard.
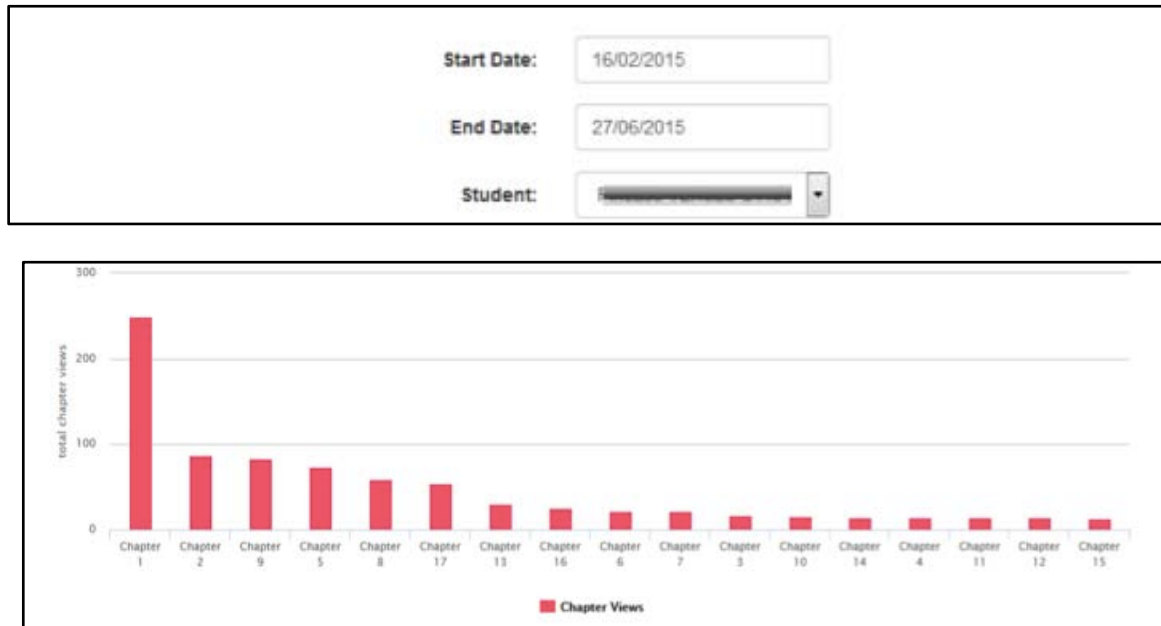

Figure 6: Snapshot of the learning analytics dashboard

VII. DISCUSSION

Open textbooks are increasingly being developed and adopted as amenable alternatives to expensive traditional copyrighted publisher textbooks. Consistent with such notion are the results from a number of recent studies that have conclusively shown that adopting open textbooks in place of traditional textbooks can have positive impacts on student cost savings without impeding the achievement of learning outcomes. Undoubtedly, these results are encouraging, but additional studies are needed to uncoverin formation in key areas such as how much and how often students are reading, when and where they are reading, and how they are engaging with their open textbooks, or if they are using them at all.

Availability of such information can contribute toward better assessment of return on investment in open textbooks development, which in turn is essential for ensuring the growth of open textbooks. Furthermore, such information is important (if not essential) for the evaluation and improvement of the effectiveness and efficiency of open textbooks. While this kind of information can be procured through learning analytics system for open textbooks, the area had previously remained unstudied. Accordingly, this conceptual model undertaken to aid the development of such a required system to encourage stimulating discussion and further development in the field of open textbooks learning analytics.

This conceptual system enables the recording, analysis, and presentation of interactional data that is generated by student interactions with open textbooks. This work offers the following three main contributions to the state of the art of learning analytics for open textbooks:

- It is built for books in EPUB format, which is an open standard format for the creation of digital books. As such, the system can also be used for other types of open and non-open educational resources that are published in EPUB format.
- Another contribution stems from the utilization of an open source EPUB.js reader application in the data capture process, which in turn provides benefits including cost-effectiveness and can be modified and adapted by anyone to meet specific user needs.
- Finally, and most importantly, the work presented in this paper lays the foundation for further development in this direction. One limitation of the system, however, is that with the current configuration for offline reading, the downloadable version of the book is only compatible with the Mozilla Firefox web browser (the rationale for using this browser is provided in the development section to this paper). This issue will be addressed in future work.

More specifically, learning analytics for open textbooks and other open educational resources opens up a wide range of possibilities. These possibilities include optimizing textbook planning and development; monitoring usage type and degree; evaluating breadth and depth of impact and effectiveness; and revision strategies for improvement. Accordingly, both open textbook producers and their users will be able to engage in collaborative inquiry and exploration into unmasking deeper pedagogical concepts associated with open textbooks.

Looking into the current climate of open education, the necessity for learning analytics has only recently really started to be realized for open educational resources. It is anticipated that learning analytics will play an important role as a key driver in mainstreaming open textbooks (and more broadly OER) in schools and colleges in the future.

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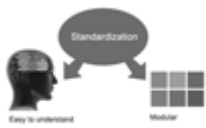
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> "
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>
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>
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2. Ethical Guidelines,

3. Submission of Manuscripts,

4. Manuscript's Category,

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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:

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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.

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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.

Please carefully note down following rules and regulation before submitting your Research Paper to Global Journals Inc. (US):

Segment Draft and Final Research Paper: You have to strictly follow the template of research paper. If it is not done your paper may get rejected.

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- Do not give permission to anyone else to "PROOFREAD" your manuscript.

- Methods to avoid Plagiarism is applied by us on every paper, if found guilty, you will be blacklisted by all of our collaborated research groups, your institution will be informed for this and strict legal actions will be taken immediately.)

- To guard yourself and others from possible illegal use please do not permit anyone right to use to your paper and files.

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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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