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Arts and Academic Achievement—Empirical Evidence for Arts Realities in United States Education Law and Around the World

Abstract: *That the arts enhance academic achievement has been a claim of educators for the past century. This experimental study examined whether and to what extent the use of creative dramatics interventions increased the vocabulary achievement of fourth grade students in a language arts classroom. The 20-day study was conducted across five weeks of school—for 45 minutes each day—during the normally scheduled language arts instruction block. It included a pretest, 17 consecutive school days of instruction, and a posttest. A retention test was administered five weeks later. Three fourth grade teachers were randomly assigned to a random sample of 83 fourth graders. The study was conducted at a Learning Assistance Program (LAP) reading and math school, in a large rural school district in Washington State. Descriptive statistics were used to describe the demographics of the sample...inferential statistics were used to calculate the differences between groups. (Joseph, 2013/2014, pp. 2-3)*

Keywords: *creative dramatics, vocabulary achievement, arts and academic achievement, arts integration, integrated arts, interdisciplinary arts education, language arts, arts education, communication*

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摘要 (AnnRené Joseph: 艺术与学术成就 - 在美国和世界范围内的教育法中艺术现实的经验证明) : 艺术提高了学术成就, 这是上世纪教育工作者的一大主张。这项实验性的研究探讨了创造性的戏剧性的干预措施是否以及在何种程度上提高了语言艺术课堂上四年级学生的词汇成绩。为期 20 天的研究是在学校五个星期内进行的, 每天 45 分钟, 这也是往常计划的语言艺术课程。它包括一个预测, 连续 17 天的上课以及一个后期测试。五周后, 进行了保留测试。三名四年级的老师按照随机原则编制给 83 名四年级的学生。这项研究是在华盛顿州一个大型农村学区学习援助计划 (LAP) 中的阅读和数学学校进行的。描述性的统计数据用于描述样本中的人口统计 (...) 推断性的统计数据用于计算组与组之间的差别 (Joseph, 2013/2014, S. 2-3)。

关键词: 创意戏剧, 词汇成功, 艺术和学术成就, 艺术融合, 融合艺术, 跨学科艺术教育, 语言艺术, 艺术教育, 沟通

摘要 (AnnRené Joseph: 藝術與學術成就 - 在美國和世界範圍內的教育法中藝術現實的經驗證明) : 藝術提高了學術成就, 這是上世紀教育工作者的一大主張。這項實驗性的研究探討了創造性的戲劇性的干預措施是否以及在何種程度上提高了語言藝術課堂上四年級學生的詞彙成績。為期 20 天的研究是在學校五個星期內進行的, 每天 45 分鐘, 這也是往常計劃的語言藝術課程。它包括一個預測, 連續 17 天的上課以及一個後期測試。五週後, 進行了保留測試。三名四年級的老師按照隨機原則編制給 83 名四年級的學生。這項研究是在華盛頓州一個大型農村學區學習援助計劃 (LAP) 中的閱讀和數學學校進行的。描述性的統計數據用於描述樣本中的人口統計 (...) 推斷性的統計數據用於計算組與組之間的差別 (Joseph, 2013/2014, S. 2-3)。

關鍵詞: 創意戲劇, 詞彙成功, 藝術和學術成就, 藝術融合, 融合藝術, 跨學科藝術教育, 語言藝術, 藝術教育, 溝通

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Zusammenfassung (AnnRené Joseph: *Kunst und akademische Leistung - Empirischer Beweis für Kunstwirklichkeiten im Bildungsrecht der Vereinigten Staaten und in der Welt*): Dass die Künste die akademische Leistung verbessern, ist ein Anspruch der Pädagogen für das letzte Jahrhundert. Diese experimentelle Studie untersuchte, ob und inwieweit der Einsatz kreativer dramatischer Interventionen die Vokabularleistung von Schülern der vierten Klasse in einem Sprachkunstunterricht erhöht. Die 20-tägige Studie wurde über fünf Schulwochen hinweg für 45 Minuten pro Tag durchgeführt - während des normalerweise geplanten Unterrichtsblocks für Sprachkunst. Es beinhaltete einen Pretest, 17 aufeinander folgende Schultage Unterricht und einen Posttest. Fünf Wochen später wurde ein Retentionstest durchgeführt. Drei Lehrer der vierten Klasse wurden nach dem Zufallsprinzip einer Stichprobe von 83 Viertklässlern zugeordnet. Die Studie wurde an einer Lese- und Mathematikschule des Learning Assistance Program (LAP) in einem großen ländlichen Schulbezirk im Bundesstaat Washington durchgeführt. Beschreibende Statistiken wurden verwendet, um die Demographie der Stichprobe zu beschreiben (...) inferentielle Statistiken wurden verwendet, um die Unterschiede zwischen den Gruppen zu berechnen. (Joseph, 2013/2014, S. 2-3)

Stichworte: kreative Dramatik, Vokabularerfolg, Kunst und akademische Leistung, Kunstintegration, integrierte Kunst, interdisziplinäre Kunstausbildung, Sprachkunst, Kunstpädagogik, Kommunikation

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Аннотация (АннРене Йозеф: *Искусство и академическая результативность – примеры встраивания концептов художественной действительности в образовательном праве США и других странах*): Тот факт, что разные виды искусства улучшают академические достижения, является стимулирующим и мотивирующим фактором для современных педагогов. В данной работе, основанной на эксперименте, исследуется, расширяется ли вокабуляр учеников четвертого класса на занятиях художественного мастерства за счет использования креативных художественных профилей, и если расширяется, то в какой степени. Исследование, длившееся в первой фазе 20 дней, было продолжено по прошествии 5 школьных недель. На проведение исследования ежедневно отводилось 45 минут. Ориентиром были занятия по художественному мастерству. По структуре это выглядело следующим образом: претест, 17 следующих друг за другом занятий и посттест. Спустя пять недель был проведен так наз. квалификационный тест. Три педагога, преподающих в четвертом классе методом случайной выборки были определены к группе испытуемых, к которым относились четвероклассники (83 человека). Исследование проводилось в школе чтения и математики в рамках обучающей программы LAP в одном из крупных сельских школьных округов штата Вашингтон. Использование дескриптивной статистики было необходимо для описание демографии выборки; инференциальная статистика применялась для того, чтобы рассчитать индексы различия между группами испытуемых. (Joseph, 2013/2014, S. 2-3).

Ключевые слова: креативная драматургия, успех в освоении вокабуляра, искусство и академические достижения, художественная интеграция, интегрированное искусство, междисциплинарная профессиональная подготовка по направлению «Искусство», художественное мастерство, художественная педагогика, коммуникация.

Introduction

The Effects of Creative Dramatics on Vocabulary Achievement of Fourth Grade Students in a Language Arts Classroom: An Empirical Study (Joseph, 2013/2014¹; 2014, 2019), provides statistical significance as to how creative dramatics strategies improved student scores in vocabulary achievement in an experimental design research study. This article was created specifically for the *IDE-Online Journal (International Dialogues on Education: Past and Present)*, and is **a significantly shortened version of the aforementioned dissertation study and results**. It endeavors to illuminate the relevance of the findings to current education law in the United States of America (USA), and further the possibilities it presents internationally for students to experience arts education as a part of basic education for all learners employing the artistic processes of creating, performing, presenting, and responding.

The study is replicable, transferable, and generalizable to other arts and core subjects, while being conducted during the school day—and adaptable around the world. Arts for 'art's sake', integrated arts (dance, music, theatre, and visual arts), and arts in the content areas (arts integration), are included in the interventions for the two treatment groups, which outscored the control group on district language arts basal mandated vocabulary words as measured by the dependent variable (DV) —a teacher and researcher-designed 31-question criterion-referenced multiple choice vocabulary test.

The article narrative, tables, and figures presented are taken from the published dissertation and available for download and citing through the *Seattle Pacific University (SPU) Library Digital Commons at SPU Dissertations and Theses*ⁱⁱ database. Six endnote references to this study illumine key resources of the article purposes. The statistically significant findings of this empirical study support the claim of causal effects for arts education processes and academic achievement.

Theoretical Basis of the Study

Purpose and Rationale for Creative Dramatics and Vocabulary Achievement. The purpose of the aforementioned experimental study was to examine the effects of creative dramatics interventions on the vocabulary achievement of fourth grade students in a language arts classroom. Stahl and Nagy (2006) gave rationale for this examination, stating, “Our vocabulary, even more than our accent, gives away our social and educational background. As a major factor in determining what we can understand, it opens or closes access to sources of information that will impact our future” (p. 3). They further stressed, “Perhaps one of the most important reasons why teachers need to pay attention to vocabulary is that vocabulary knowledge is cumulative. The more words you know, the easier it is to learn yet more words” (Stahl & Nagy, 2006, p. 6). Additional rationale for such a study that included creative dramatics as a means to develop and promote vocabulary development in a multi-cultural and low income school environment, was provided by McMaster (1998) in the following statement:

Drama is an invaluable tool for educators because it is one of the few vehicles of instruction that can support every aspect of literacy development. Drama encompasses all four of the language arts modalities and is an effective medium for building decoding, vocabulary, syntactic, discourse, and metacognitive knowledge. Drama activities encourage the affective aspects of reading and emergent literacy, accomplishing this within a valuable social context. Drama begins with the concept of meaningful communication and provides multiple opportunities for social interaction and feedback. These interactions offer the kind of support Vygotsky (1978) deems necessary for internalizing new knowledge. Above all, drama activities are extremely effective in fostering a community of learners who choose to participate in independent reading activities. (pp. 574-575)

Importantly, the arts, defined in Washington State as dance, media arts, music, theatre, and visual arts (Office of Superintendent of Public Instruction [OSPI], n.d.); are considered part of basic education for all students in Washington State education law; and listed as such in the Revised Code of Washington (RCW) 28A.150.210 since 1993 (Washington State Legislature [WSL], 1993). Further, two credits for the arts are required for high school graduation, beginning with the freshman class of 2015—in effect for the graduating class of 2019, per the Washington Administrative Code (WAC) 180-51-068 (Washington State Legislature [WSL], 2014). Parents in Washington State should expect access to arts educational opportunities for their children in all public schools in the state—grades kindergarten through high school.

Alarming, is that although the arts (including creative dramatics) are part of basic education since 1993 in Washington State, the time that students receive instruction in creative dramatics is minimal—if at all

(Parsad & Spiegelman, 2012). Supplementary, a recent 2018 on-line report about the amount of arts education (dance, media arts, music, theatre, and visual arts) in 20 King County school districts in Washington State specified that while 57.7% of all King County high school students were enrolled in an arts class, only 5.3% of those students participated in theatre instruction (Illuminate Evaluation Services, LLC, 2019ⁱⁱⁱ).

Research Questions

This study examined the effects of creative dramatics interventions on the vocabulary achievement of fourth grade students in a language arts classroom and involved four research questions. This article will focus on examining the effects of researched and sustained creative dramatics interventions by answering research question four, following:

Question 4. Is there an interaction effect between the time and condition (time = pretest, posttest, and retention test administrations), and condition (condition = creative dramatics and vocabulary words [CDVW], creative dramatics and story retelling enactments [CDSR], and control group [CG]), to strengthen the vocabulary achievement in fourth grade students in a language arts classroom, as measured on a criterion-referenced vocabulary test of the language arts unit of study?

The answers, statistical analyses, and results regarding question four follow via the narrative, terms and definitions, tables, and figures provided from the study dissertation. Should the study be replicated, question four should drive the inquiry of the investigation.

Historical Context

This study addressed the gap in previous empirical research that examined any causation between creative dramatics and vocabulary achievement (Podlozny, 2000). Specifically, the examination of creative dramatics (arts education) as a 'process versus a product' needed clarity and detailed example for future researchers (Conard, 1992). The necessity of such a study was stressed by Winner & Hetland (2000) who cited such a need and concluded, "Research demonstrating a causal role for the arts (whether this role is direct or indirect) must be experimental in design" (p. 5). They stressed, "True experimental research, with random assignment of students and teachers to arts vs. control classrooms, is very difficult to carry out in the real world of schools" (ibid.).

Connection to United States Every Student Succeeds Act (ESSA) Title I Part A. Significant, this study meets the requirements of *ESSA: Title I Part A, Sections 1008-1009* (United States Department of Education [USDOE], 2015^{iv}), representing strong empirical evidence to advocate for arts instruction and access to all learners during the school day in innovative ways as defined in the federal education law. Jones (2018/2019) categorized research summaries from the *Arts Education Partnership* (AEP), peer reviewed *ArtsEdSearch* database, and assigned qualifying summaries of studies to the tiers of research required for application funding in *ESSA* (USDOE, 2015), resulting in the report *ESSA: Mapping Opportunities for the Arts* (Jones, 2018/2019^v). This study was cited as a *Tier 1* (empirical study) in that report as follows:

The Effects of Creative Dramatics on Vocabulary Achievement of Fourth Grade Students in a Language Arts Classroom: An Empirical Study^{vi} (Potentially Tier 1). This experimental study explores the impact of a drama-integration program on language development for fourth-grade students. The study found that students participating in the program demonstrated better vocabulary acquisition than those who did not participate in the program. (Jones, 2018/2019, p. 29)

Nationally, schools and districts may cite the results of this study as empirical research to support a schoolwide program plan of accountability to use arts education strategies to improve instructional opportunities for academically at-risk students. These types of schoolwide plans provide arts instruction for all students—arts for art’s sake, integrated arts, and arts in the content areas.

Review of Literature

Empirical studies with regards to creative dramatics and vocabulary achievement—over the last 69 years—continue to be rare, if at all (Joseph, 2013/2014, 2014, n.d.; Mages, 2008; Podlozny, 2000, 2001; Winner & Cooper, 2000; Winner, Goldstein, & Vincent-Lancrin, 2013a, 2013b; Winner & Hetland, 2000, 2001a, 2001b, 2002). Such strict experimental designs are difficult to conduct partly due to the nature of human and environmental inconsistencies of a school environment, and partly due to replicable practices.

Interestingly, results from research studies regarding creative dramatics or any drama-based methodologies with linkages to literary arts—whether quantitative, qualitative, or mixed

methods—continue to show positive effects. A meta-analysis of 35 studies regarding the effects of drama-based pedagogies over the past 30 years (1985-2015) was recently conducted by Lee, Enciso, and Brown (n.d.). The authors specified, “All studies included in this review compare an intervention group to a control/comparison group” (Lee et al., p. 15); albeit, most were qualitative in nature and involved mixed-methods or non-replicable qualitative research designs. This present study was included as an empirical study, and one of only two studies published during 2013 regarding drama-based pedagogies meeting the aforementioned criteria for inclusion in their meta-analysis.

Further, a recent book by Eddy (2016) echoed three key challenge areas discussed in this study: promoting the value of creative dramatics and movement; ensuring sustained and on-going instruction in the midst of budget and academic testing limitations on school day schedules; and referencing the need for empirical and quantitative research conducted during the school day, to validate arts (creative dramatics) education as part of basic education and essential to all learners.

Consequently, this study meets the requirements that can be used in *ESSA*’s definitions for methods in the arts to be utilized with students under *Title I, Part A* of the *ESSA*, and supported by state and federal laws, policies, and practices (Jones, 2018/2019; Lee et al., n.d.; Ludwig, Boyle, & Lindsay, 2017; OSPI, n.d.; USDOE, 2015; U.S. Department of Education and its Institute of Education Sciences [IES], U.S. Department of Education, National Center for Education Statistics, Common Core of Data [CCD], 2010; WSL, 1993, 2014).

Terms and Definitions

The following terms, as defined in the study, are specifically defined with intention, for generalization of a pathway for future researchers. Explicit definitions were researched, further defined, and employed in direct response to recommendations of previous researchers of the arts who cited unclear and unreliable practices and definitions. The study terms and definitions provide clarity, specification, and common vocabulary in discussion of the results and regarding future quantitative replication or adaptation, as well as qualitative and mixed-method studies regarding creative dramatics and vocabulary achievement (Arts Education Partnership [AEP], 2002; Conard, 1992; Gray, 1987; Massey & Koziol, 1978; Podlozny, 2000, 2001; Somers, 2001; Vitz, 1983; Winner & Hetland, 2000). A detailed list of all terms used in the dissertation is provided in Appendix B. An alphabetical list of terms and definitions

for this article that specifically address the research question follow and are provided as cited by organizations, resources, or authors, and for further interest of readers.

The Arts in Washington State.

The arts are core subjects at both the state and federal levels. Washington defines the arts as the unique five disciplines of dance, media arts, music, theatre, and visual arts. The arts teach to the whole child, engage all learning styles, and lead to the development of powerful learning habits that include such essential 21st Century Skills as creativity, collaboration, communication, and critical thinking. The arts also provide students with keys to understanding the world around them and an array of strategies for learning, interpreting, and expressing their thoughts. (OSPI, n.d., p.1)

Arts Integration – Referred to as “Interdisciplinary Arts” or “Arts in the Content Areas.” Arts integration, also referred to as interdisciplinary or integrated teaching, refers to one subject specifically focused on benefitting the other; whereas, the outcomes of one subject are promoted at the expense of the other subject (Brophy & Alleman, 1991; Cawthon & Dawson, 2011; Fogarty, 1991; Russell-Bowie, 2009, p. 5). Ellis and Fouts (2001) described interdisciplinary curriculum as one “aimed at helping students to find connections between subjects and to use different ways of knowing” (p. 22). Bresler (1995) defined interdisciplinary instruction as “maintaining traditional subject boundaries while aligning content and concepts from one discipline with those of another” (p. 31).

Creative Dramatics. “Creative dramatics is a dramatic enactment (led by the teacher) of a story, setting, and/or characters. This is an experiential, process-based activity, not a performance for an audience. The teacher may assume a role” (OSPI, 2011d/2014d). Creative dramatics synonymously incorporates the terms classroom drama, creative drama, and drama.

Integrated Arts (Dance, Music, Creative Dramatics, and Visual Arts). Integrated arts are the natural tendency for one or more arts (dance, music, theatre, and visual arts) to embed with the other, as in dancing to music, or acting and singing to music, or drawing to music, as in an interdisciplinary curriculum; however, specific to the arts disciplines (Cave, 2011; Gilbert, 2006).

Language Arts. “All four of the major language arts – listening, speaking, reading, and writing – are involved in creative drama” (Ross & Roe, 1977, p. 383).

Readers’ Theatre. “Readers’ theatre is an orchestrated reading that relies primarily on vocal characterization and does not include the elements of visual theatre, such as costuming, sets, or blocking in the presentation (OSPI, 2011d/2014d, p. 137).

Vocabulary. “Vocabulary refers to students’ knowledge of word meanings” (Stahl & Nagy, p. 3).

Generalization and International Considerations

In order to isolate and examine the effects of creative dramatics on vocabulary achievement, a quest for a generalizable school and district population; as well as a district language arts program that integrated with the arts was sought. Interviews with school district and building leadership, as well as grade level teachers from grades three to five commenced (Dupont, 1992). Issues discussed in these interviews included finding a location that would allow an experimental study with a researcher on site for the duration of the study and observing in the classrooms. Teachers were asked to participate in training with the researcher and employ the creative dramatics treatments learned on a daily basis with their students while being observed by the researcher. Lesson plans and treatment strategies were developed by the teachers and researcher, and integrated with the district’s expectations and in further

alignment with district, state, and national standards of learning. There was no cost to the school district, and the three participating teachers received a continuing education credit from the sponsoring university—in this case—Seattle Pacific University in Seattle, Washington State, USA.

Thus, the study occurred during the school day, for an entire grade level of fourth graders in a Learning Assistance Program (LAP) school in Washington State. Confidentiality agreements for the district, school, teachers, and students were required (see Appendices G, J, and R).

The study examined if, “Instruction in the arts when integrated with academic instruction, might result in greater academic improvement than does academic instruction without the arts” (Winner & Hetland, 2000, p. 6). Further, during this era of educators utilizing the arts for what they can do for other core subjects, this investigation examined the effects of the process of researched and sustained creative dramatics interventions that incorporated arts (dance, music, theatre [creative dramatics], and visual arts) for “art’s sake, integrated arts (dance, music, theatre [creative dramatics] and visual arts), and arts in the content areas (arts integration with language arts [vocabulary achievement]). These treatments occurred during the 15-20 minutes of prescribed daily treatments, during the 45 minute language arts block in the normal school day, and for the 17 consecutive school days of the study. Further, three days were added for the pretest, posttest, and retention test, resulting in a 20-day study. The 83 fourth grade students were randomized, as were the three fourth grade teachers. The study treatments were further aligned with Washington State’s reading and arts learning standards (OSPI, 2004, 2011a/2014a, 2011b/2014b, 2011c/2014c, 2011d/2014d, 2011e/2014e).

This detailed pathway for examination, replication, and generalization of the results is difficult; yet, doable. The experimental design provided initial research of such purpose and process examining the effects of creative dramatics on vocabulary achievement. Specifically, three randomized teachers provided the creative dramatics treatments to their 83 randomized fourth grade students in a low socio-economic status (SES) school population.

Descriptive statistics further described the demographics of the student sample, and inferential statistics were used to calculate the differences between groups. The study school site was classified as a full Learning Assistance Program (LAP) school, with focus areas in reading and math, which classified 100% of the population as “at-risk.”

Generalizability. The requirements of *ESSA: Title I Part A, Sections 1008-1009* replace the previous United States education law enacted in 2002 and entitled, *No Child Left Behind [NCLB], Arts in Education, Subpart 15, Section 5551* (United States Department of Education [USDOE]. *No Child Left Behind [NCLB]*, 2002; USDOE, 2015). Specifically, *ESSA: Title I Part A, Subpart 1, Section 1008* addresses schoolwide programs and plans that may incorporate arts education strategies to improve learning opportunities for all students (Jones, 2018/2019, p. 3; USDOE, 2015). Further, *ESSA: Title I Part A, Subpart 1, Section 1009* addresses targeted assistance schools; whereas, “schools that do not meet the poverty threshold for schoolwide schools can use *Title I* funding to create programs targeted to help academically at-risk students meet the state’s academic standards” (Jones, 2018/2019, p. 4; USDOE, 2015).

Noteworthy, the student sample in this study met the requirements for both of the aforementioned subparts, with over 40 percent of the students being confidentially identified as coming from low-income families; whereas, 52.6% of the fourth grade students, in the present study, were classified as “at-risk” for academic achievement due to the social-economic status (SES) of their family which is a higher percentage of SES qualifiers than the study school, study district, and state percentages, providing generalizability to other schools and districts.

Purposefully, this article summarized the aforementioned study and the generalizability it affords to the current federal law; creative dramatics and vocabulary research; as well as the implications the study creates for arts educational opportunities for students in Washington State; as well as, nationally and internationally (OSPI, n.d.; Podlozny, 2000; USDOE, 2015; Winner et al., 2013a, 2013b).

The national and international implications for generalizability regarding the results of this study are significant to educational practices and arts education; whereas, one academic subject—the arts (which includes creative dramatics) —could positively impact another academic subject—language arts (which includes vocabulary achievement). Furthermore, the possibilities this empirical research study affords to national and international students in obtaining a ‘well-rounded education’ in the development of a whole child (which includes the arts) are enhanced. The generalizability of the abovementioned study and student demographics is reported in Table 1, following, and provides further evidence for the claims of this article.

Table 1: *Academic “At-Risk” Factor Free and Reduced Price Lunch Comparison Chart for Study Grade Level, Study School, Study School District, and Washington State – 2011-2012*

	Percent of Free and Reduced Price Lunch for 4 th Grade Students at Study School	Percent of Free and Reduced Price Lunch for Grades K-6 Students at Study School	Percent of Free and Reduced Price Lunch for K-12 Students in Study School District	Percent of Free and Reduced Price Lunch for K-12 Students in Washington State
Total Number of Students in each Category	N = 91	N = 651	N = 17, 622	N = 1, 043, 905
Percentage of Students in each Category Qualifying for Free/Reduced Price Lunch (SES)	52.6%	50.3%	42.8%	45.5%

(Source: Source for Demographic Descriptors: OSPI Report Card Summary 2011-2012, retrieved from <http://reportcard.ospi.k12.wa.us/summary.aspx?year=2011-12>. The N = 91 represents the entire 4th Grade of the study school, including eight English Language Learners [ELL] students not included in study N = 83).

Research Design and Method

This investigation of creative dramatics instruction and its effects upon the vocabulary achievement of fourth grade students in a language arts classroom consisted of a 20-day study, with a randomized pre-test-posttest control-group design and a five-week follow-up retention test (Campbell & Stanley, 1963; Gall et al., 2007). The dependent variable was a teacher-researcher developed criterion test, based upon the 31-vocabulary words that were expected and required of all fourth graders in the study school district’s adopted language arts curriculum: *Theme 2: American Stories: Focus on Plays* (Hough-

ton Mifflin Reading, 2005). The study treatments were taught to each individual teacher, by the researcher, for one 30 minute training block, and in compliance with their district contract. Following, Table 2 presents a diagram of the experimental design study.

Table 2: *Pretest-Posttest Control Group Design*

Group	Pretest	Treatment	Posttest	Retention Test
R ₁	O ₁	X ₁	O ₂	O ₃
R ₂	O ₄	X ₂	O ₅	O ₆
R ₃	O ₇	Control	O ₈	O ₉

(Sources: Campbell & Stanley, 1963, p. 13; Gall et al., 2007, p. 398).

- R₁ = Randomly assigned experimental group I
- R₂ = Randomly assigned experimental group II
- R₃ = Randomly assigned control group

Description of the Student Sample N = 83

The student sample for the study was evenly distributed between the three fourth grade classrooms by number of students in each group, and by gender of the student sample $N = 83$; resulting in an equal number of males $n = 41$ and females $n = 42$, and illustrated in Table 3, following.

Table 3: *Gender by Fourth Grade Treatment Group N = 83*

	Total Students in the Study		Total
	Male	Female	
Experimental Group I (Creative Dramatics and Vocabulary Words [CDVW])	13	15	28
Experimental Group II (Creative Dramatics and Story Retelling [CDSR])	14	13	27
Control Group (CG)	14	14	28
Total	41	42	83

While the equality of groups for this empirical study was met and provided strength for the outcomes that will be shared, it may be seen as a limitation in replication and generalizability of the results. Two students enrolled after the study began—after the pretest—and prior to the posttest and retention test; thus, making the total student sample $N = 83$. These students were both female, and intentionally assigned into Experimental Group II, and to the Control Group, to keep the class sizes equal, and in honor of the district contractual obligations regarding student class-sizes. Beneficial and unusual for this type of school population, no students withdrew during the study. Individual differences of the students, including exceptionalities, special needs, and the listwise sample descriptions for the listwise pretest

and posttest $N = 76$; as well as the listwise pretest-posttest and retention test $N = 68$ are further detailed in Chapter Three and in the tables included in this article. As reported in the generalizability Table 1 of this article, eight fourth grade students received pull-out English Language Learning (ELL) instruction during the language arts block and were not involved in the study.

Following, in Table 4, are the race and ethnicity by classroom condition for the fourth grade student sample $N = 83$.

Table 4: *Race and Ethnicity Statistics by Treatment Group N = 83*

	White	Asian	American Indian/ Alaskan Native	Black	Asian/ Pacific Islander	Two or More Races
Experimental Group 1 (CDVW) $n = 28$	22	2	3			1
Experimental Group II (CDSR) $n = 27$	19	2	2	2	1	1
Control Group (CG) $n = 28$	14	4	5	3		2
Total $N = 83$	55	8	10	5	1	4

(Source: Source for Demographic Descriptors: OSPI Report Card Summary 2011-2012, retrieved from <http://reportcard.ospi.k12.wa.us/summary.aspx?year=2011-12>).

Further, Table 5, following, defines the student sample, and illustrates the homogeneity, generalizability, and academic risk factors of the student sample $N = 83$.

Table 5: *Academic "At-Risk" Factor by Treatment Group N = 83*

	ELL	Special Educa- tion	McKinney- Vento (Homeless)	Free/Reduced Lunch	Total
Experimental Group I (Creative Dramatics and Vocabulary Words [CDVW]) <i>n</i> = 28	2			13	15
Experimental Group II (Creative Dramatics and Story Retelling [CDSR]) <i>n</i> = 27			2	11	13
Control Group (CG) <i>n</i> = 28		1		11	12
Total N = 83	2	1	2	35	40

(Sources: Source for Demographic Descriptors: OSPI Report Card Summary 2011-2012. Retrieved from <http://reportcard.ospi.k12.wa.us/summary.aspx?year=2011-12>. Source for number of students qualifying for state demographic descriptors was the study school secretary, as student data and names for SES are confidential in Washington State).

Dependent Variable

The dependent variable was designed during the fourth grade teachers' Professional Learning Community (PLC) time (Soine, 2011); whereas, the three fourth grade teachers, in consultation and review by the researcher, and approval of the school district and school principal, created the test to measure the 31-vocabulary words that were to be learned in the four stories of the district prescribed language arts basal unit (Houghton Mifflin Reading, 2005). Further, the criterion-referenced multiple choice vocabulary test design met current research on effective practices and assessment of such (Black & Wiliam, 1998; Holcomb, 1999; McMillan, 2007; Taylor & Nolen, 2005, 2008; Wiggins, 1998; Wiggins & McTighe, 2005).

Dependent Variable Reliability. Two internal consistency estimates of reliability were computed for the dependent variable, a teacher and researcher-designed 31-question criterion-referenced multiple choice vocabulary test. Reliability of the dependent variable was tested and reported as satisfactory, and the reliability indexes are provided in Appendix K (Cronbach, 1951, 1982; Field, 2009; Green, Salkind, & Akey, 2000; Green & Gundersheim, 2010; Nunnally & Bernstein, 1994; Vogt, 2005).

Dependent Variable Validity. The dependent variable was a formative assessment design that followed the recommendations for a valid and reliable instrument and instrumentation development structure for research regarding creative dramatics and academic achievement. Specifically, the 31-

vocabulary words measured were only those words that would be required to be measured in the four stories in the specific unit of study—as opposed to other vocabulary words and variables not being investigated in the study—thus measuring only what was expected (Conard, 1992; Galda, 1982; Kardash & Wright, 1987; Mages, 2008; Massey & Koziol, 1978; Pellegrini, 1984; Pellegrini & Galda, 1982; Podlozny, 2000; Vitz, 1983, 1984; Wagner, 1998; Winner & Cooper, 2000; Winner & Hetland, 2000).

Power Analysis. Further, the following table illustrates the total number of students present for each test administration of the dependent variable. As stated earlier, the total number of fourth graders was $N = 81$ at the start of the study; whereas, two students enrolled during the study; thus, creating a total $N = 83$. No students withdrew during the study. The listwise pretest-posttest attendees were $N = 76$; whereas, the listwise pretest-posttest and retention test attendees were $N = 68$. All data regarding student attendance and listwise calculations met the power analysis requirements for an $N = 51$, recommended by Gall et al. (2007, p. 142-145), and needed for statistical significance at the confidence level of $p < .05$ resulting in a possible statistical power at the .7 level for a large effect size. This data is illustrated in Table 6, following.

Table 6: *Pretest, Posttest, and Retention Test Dates Student Enrollment and Student Attendees*

	Pretest November 1, 2011	Posttest December 1, 2011	Retention Test January 3, 2012
Total N Enrolled by Test Administration	$N = 81$	$N = 83$	$N = 83$
Total N Present by Test Administration	$N = 79$	$N = 80$	$N = 75$

Study Schedule

The study required 19 consecutive days of school time, across five weeks. The pretest was the first day, the posttest was day nineteen, and the retention test was day 20, and occurred five weeks following the posttest, and on the day after students returned from a two-week December holiday vacation.

This study rotated the times that teachers incorporated the study treatments, as the researcher observed the treatments in each classroom, daily, during a 15-20 minute agreed upon time the treatment was taught and experienced by the students. Each week of the study, the three teachers would teach the treatment either at the beginning, in the middle, or during the last part of the daily 45 minute language arts block. This allowed the researcher to observe each teacher and their students on a daily basis, at the scheduled time, and to ensure treatment fidelity. A detailed graphic organizer illustrating the study on one page is available in Appendix V, and was created to answer questions future researchers may have regarding the study parameters.

Following is a detailed schedule of the study time-line provided in Figure 1. It illustrates the schedule calendar in a pictorial format of the 20-day and five-week study; and illumines the months leading up to the study needed to interview and find a school district and school site; as well as to submit paperwork to the university Institutional Review Board (I.R.B.) for approval, and to secure advisor approval for the study to proceed with the proper supports in place.

Study Schedule Calendar: Pre-Study Approval, Lesson Plans, Criterion-Referenced Test, Random Assignment, Teacher Training – 20-Day Study – Fall 2011

Monday	Tuesday	Wednesday	Thursday	Friday
July 12, 2011 Met with district administration to present and gain proposal approval.		September 28, 2011 Met with teachers and principal at study school.		
		October 12, 2011 Submitted SPU IRB Request and district request to conduct research		October 14, 2011 District approval to conduct research at study school site.
October 17-19, 2011 Teacher PLC time to draft 5-week lesson plan and criterion-referenced test.		October 19, 2011 Researcher received draft lesson plans and criterion-referenced test. October 26, 2011 IRB Approval	October 27, 2011 Random assignment of classes and training of teachers.	October 19-28, 2011 Refinement of Lesson Plans and Criterion-Referenced Test by Researcher

November 2011: 19 Consecutive School Days of Study and Five-Week Retention Test Follow-Up				
Monday	Tuesday	Wednesday	Thursday	Friday
October 31, 2011	November 1, 2011 Pretest Study Begins	2 – Treatment	3 – Treatment	4 – Treatment
7 – Treatment	8 – No Treatment District in-service	9 – Treatment Two Subs Exp. Group II Control Group	10 – Treatment Two Subs Exp. Group II Control Group	11 – No School Veteran’s Day Holiday
14 – Treatment	15 – Treatment	16 – Treatment	17 – Treatment	18 – Treatment Two Subs Exp. Group II Control Group
21 – Treatment	22 – Treatment Three Subs Exp. Group I Exp. Group II Control Group	23 – Treatment	24 – No School Thanksgiving Day	25 – No School Thanksgiving Break

28 - Treatment	29 - Treatment	30 - Treatment	December 1, 2011 Posttest Study Ends	December Winter Break Dec. 19-30, 2011
January 2, 2012	January 3, 2012 Retention Test			

Figure 1. Study Schedule Calendar: Calendar Pictorial Format of Five Week Study

The details of the study treatment interventions follow in Figure 2. The treatment interventions were developed by the researcher from multiple sources of successful studies, pedagogy, methodology, philosophical, social, and emotional underpinnings regarding arts education as a cognitive process of 'learning by doing', play, and experience (Adler, 1994; Booth, 2007; Bruner, 1966; Dalcroze, 1930; Dewey, 1934; Duffelmeyer & Duffelmeyer, 1979; Edwards, B., 1979; Edwards, C., 1972; Eisner, 1998; Ellis, 2001; Gilbert, 2006; Himmele & Himmele, 2011; Houghton Mifflin Reading, 2005; Kodály, 1974; Laban, 1971; Montessori, 1917; OSPI, 2011a/2014a, 2011b/2014b, 2011c/2014c, 2011d/2014d, 2011e/2014e; Orff, 1974/1980; Piaget, 1962; Richards, 1967; Siks, 1958; Smilansky & Shefatya, 1990; Steiner, 1997; Sternberg, 1997; Vygotsky, 1966; Ward, 1930; Zull, 2002). Further, the treatment interventions were written in intricate detail and cited. They are available in Appendix C for future researchers and teachers; as well as for national and international generalizability. The '*Bravo X Strategy*' is a strategy developed by the researcher, and was part of the daily treatment for the CDVW treatment group, and also detailed in Appendix C of the study.

Summary of Study Intervention Strategies, Minutes, and Hours

	N	Study Treatment	Teacher Absence	Amount of Treatment at 15 Minutes Per 17 Days = 255 Minutes = 4 Hours and 15 Minutes	Amount of Treatment at 20 Minutes Per 17 Days = 340 Minutes = 5 Hours and 40 Minutes
Experimental Group I (Creative Dramatics and Vocabulary Words [CDVW])	28	Warm-up: ' <i>Bravo X strategy</i> ' Singing/saying "hello"; Treatment: Singing and acting out vocabulary words and definitions with creative dramatics; acting out vocabulary words in story reading Summary: Story summary book-	1	240 minutes = 4 hours Creative Dramatics and Vocabulary Words treatment	320 minutes = 5 hours and 20 minutes Creative Dramatics and Vocabulary Words treatment

		lets with sketch drawings and narrative			
Experimental Group II (Creative Dramatics and Story Retelling [CDSR])	27	Warm-up: BrainDance with metaphor movements Treatment: Enact and re-enact stories with creative dramatics Summary: Story re-enactments	4	195 minutes = 3 hours and 15 minutes Creative Dramatics and Story Retelling treatment with story scene strips	260 minutes = 4 hours and 20 minutes Creative Dramatics and Story Retelling Treatment with story scene strips
Control Group (CG)	28	Warm-up: Silent Reading Treatment: <i>Readers' theatre</i> story retelling Summary: "I learned" reflection journals	4	195 minutes = 3 hours and 15 minutes = 110 minutes of <i>Readers' theatre</i> plus 85 minutes of reflection journals	260 minutes = 4 hours and 20 minutes = 175 minutes of <i>Readers' theatre</i> plus 85 minutes of reflection journals

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Figure 2. Summary of Study Intervention Strategies, Minutes, and Hours

Description of the Creative Dramatics Treatments for Three Randomly Assigned Fourth Grade Classrooms N = 83

All three study groups (two treatments and one control) experienced treatments steeped in researched and proven theory and practice, including arts education methods, philosophy, and pedagogy. To avoid the *John Henry effect* or *Hawthorne effect* (Gall et al., 2007; Houghton Mifflin Reading, 2005; Kardash & Wright, 1987; OSPI, 2004, 2011a/2014a; Vogt, 2005), all three teachers believed they were giving creative dramatics treatments in alignment with state learning standards in the arts and language arts, as well as meeting their school and district learning expectations. These creative dramatics treatments follow, as were illustrated in Figure 2, above. Teacher training of the study treatments and the random assignment of teachers are detailed in Appendices C, D, and E, along with references as to the methodology, pedagogy, and philosophical underpinnings of the treatments. Details of the three experimental groups follow:

Experimental Group I – Creative Dramatics and Vocabulary Words (CDVW). The treatment interventions for the Experimental Group I – Creative Dramatics and Vocabulary Words (CDVW) included teaching the required vocabulary words with creative dramatics movements, while rhythmically singing and chanting the vocabulary words and their definitions through creative dramatics with pantomime to represent the words. Students copied, echoed, and mirrored the teacher’s movements and rhythm patterns for the vocabulary word syllables initially, as well as initiated movements that could

be incorporated by all of the student participants. All students in Experimental Group I participated in the creative dramatics improvisations of each of the 31 vocabulary words and each of the 31 vocabulary word definitions.

Experimental Group II – Creative Dramatics and Story-retelling (CDSR). The treatment interventions for the Experimental Group II – Creative Dramatics and Story-retelling (CDSR) included teaching the required vocabulary words with creative dramatics through story retelling enactments (CDSR); whereas, students volunteered or were assigned to enact the story scenes in small groups and stress the vocabulary words in their narrative, as they enacted the scenes in small groups, one-by-one, thus retelling the story through creative dramatics improvisation of narrative and actions, and through involvement of every child in the classroom enacting at least one character per story.

Control Group (CG). The creative dramatics intervention for the Control Group (CG) was the *Readers’ theatre* strategy already incorporated and recommended for use in the study school district’s *Theme 2: American Stories: Focus on Plays* (Houghton Mifflin Reading, 2005, p. 181N). It was the intention that each student in the Control Group would be able to read a part of the story by participating in the *Readers’ theatre* strategy at least once per week. The Control Group was not a comparison group. Students in the Control Group (CG) learned the vocabulary words and content (four stories) covered during the five-week study, through following the lesson design of the district required language arts unit, co-created by the three study teachers. These students read the same story texts as those in the two creative dramatics treatment classrooms. These students retold the story, utilizing a *Readers’ theatre* format as recommended in the study school district adopted language arts curriculum (Houghton Mifflin Reading, 2005). Additionally, these students daily wrote in reflection notebooks following the *Readers’ theatre* recommended activities. Reflection papers or notebooks were a recommended strategy of the basal unit.

Student Sample

The analyses of the study were conducted on the listwise $N = 76$ pretest-posttest, and the listwise $N = 68$ for the pretest-posttest and retention test student attendees, and follow. The description and demographics of the student samples of such follow for the purposes of generalizability, international considerations, and regarding clarity and specificity of the findings.

Description of the Pretest-Posttest Student Sample Listwise $N = 76$ by Randomly Assigned Classroom Condition.

Table 7: *Gender by Fourth Grade Treatment Group Comparison Pretest-Posttest Listwise $N = 76$*

	Students Present for Pretest and Posttest Administrations Listwise $N = 76$		
	Gender		Total
	Male	Female	
Experimental Group I (Creative Dramatics and Vocabulary Words [CDVW])	12	15	27
Experimental Group II	14	13	27

(Creative Dramatics and Story Retelling [CDSR])

Control Group (CG)	12	10	22
Total	38	38	76

Additionally, the race and ethnicity statistics for the pretest-posttest student participants listwise N = 76, by treatment group follow in Table 8, including the number of student participants present in each classroom condition.

Table 8: Race and Ethnicity Statistics by Treatment Group Pretest-Posttest Comparison Listwise N = 76

	White	Asian	American Indian/ Alaskan Native	Black	Asian/ Pacific Islander	Two or More Races
Experimental Group 1 (CDVW) <i>n</i> = 27	21	2	3			1
Experimental Group II (CDSR) <i>n</i> = 27	19	2	2	2	1	1
Control Group (CG) <i>n</i> = 22	12	2	3	3		2
Total <i>N</i> = 76	52	6	8	5	1	4

180

(Source: Source for Demographic Descriptors: OSPI Report Card Summary 2011-2012, retrieved from <http://reportcard.ospi.k12.wa.us/summary.aspx?year=2011-12>).

Description of the Pretest-Posttest and Retention Test Student Sample Listwise N = 68 by Randomly Assigned Classroom Condition. The retention test was given five weeks following the posttest, and following a two-week December holiday vacation, and the day after students returned from vacation. Some students were still on vacation; which could be considered a limitation factor in the resulting listwise N = 68 for all three test administrations.

Table 9: *Gender by Fourth Grade Treatment Group Pretest-Posttest, Retention Test Listwise N = 68*

	Gender		Total
	Male	Female	
Experimental Group I (Creative Dramatics and Vocabulary Words [CDVW])	12	14	26
Experimental Group II (Creative Dramatics and Story Retelling [CDSR])	10	11	21
Control Group (CG)	11	10	21
Total	33	35	68

Additionally, the race and ethnicity statistics for the pretest-posttest and retention test student participants listwise N = 68, by treatment group follow in Table 10, including the number of student participants present in each classroom condition.

Table 10: *Race and Ethnicity Statistics by Treatment Group Pretest-Posttest, Retention Test Comparison Listwise N = 68*

	White	Asian	American Indi- an/ Alaskan Native	Black	Asian/ Pacific Is- lander	Two or More Races
Experimental Group 1 (CDVW) <i>n</i> = 26	20	2	3			1
Experimental Group II (CDSR) <i>n</i> = 21	15	1	2	1	1	1
Control Group (CG) <i>n</i> = 21	12	2	2	3		2

Total	47	5	7	4	1	4
<i>N</i> = 68						

(Source: Source for Demographic Descriptors: OSPI Report Card Summary 2011-2012, retrieved from <http://reportcard.ospi.k12.wa.us/summary.aspx?year=2011-12>).

Results and Evaluation of the Analyses

The statistical analyses included, parametric (one-way between-groups ANOVA, one-way repeated measures ANOVA, and mixed between-within subjects ANOVA" (Pallant, 2007; Tabachnick & Fidell, 2013). Furthermore, nonparametric procedures (Kruskal-Wallis, Mann Whitney *U*, and Friedman) were conducted to analyze the data generated by the pretest and posttest gains, and the retention test (re-administration of the pretest and posttest five weeks after the posttest).

The results of the pretest-posttest and pretest-posttest and retention test analyses follow in tables and figures from the dissertation study identifying the analyses and findings.

Tables 11 and 12 and Figure 3, following, illustrate the results of the mixed-between-within subjects ANOVA descriptive statistics comparing the pretest and posttest means gain scores on vocabulary words—by student, with a listwise *N* = 76. Specifically, these results exemplify the comparisons and gains between the three classroom treatment conditions in the study; creative dramatics and vocabulary words (CDVW), creative dramatics and story retelling (CDSR), and the control group (CG). It can be inferred, from the statistics means, that both creative dramatics treatments groups had higher means gains than the control group; whereas, the results of the ANOVA analyses were such that CDVW > CDSR > CG.

Table 11: *Descriptive Statistics for Mixed-Between-Within Subjects ANOVA Comparing Pretest-Posttest Means Listwise N = 76*

Test Administration	Condition	Mean	SD	N/n
Pretest (0-31)	Experimental Group I (Creative Dramatics and Vocabulary Words [CDVW])	20.19	5.219	27
	Experimental Group II (Creative Dramatics and Story Retelling [CDSR])	19.89	3.238	27
	Control Group (CG)	20.32	4.775	22
	Total	20.12	4.415	76

Posttest (0-31)	Experimental Group I (Creative Dramatics and Vocabulary Words [CDVW])	28.19	3.126	27
	Experimental Group II (Creative Dramatics and Story Retelling [CDSR])	27.30	2.181	27
	Control Group (CG)	25.18	3.936	22
	Total	27.00	3.298	76

Table 12: *Pretest-Posttest Means Gain Scores Comparisons on Vocabulary Words by Treatment Group*
 Listwise N = 76

Group	<i>n/N</i> by Group	Pretest-Posttest Means Gains by Student
Experimental Group I (Creative Dramatics and Vocabulary Words [CDVW])	<i>n</i> = 27	8.0
Experimental Group II (Creative Dramatics and Story Retelling [CDSR])	<i>n</i> = 27	7.41
Control Group (CG)	<i>n</i> = 22	4.86
Total	<i>N</i> = 76	6.88

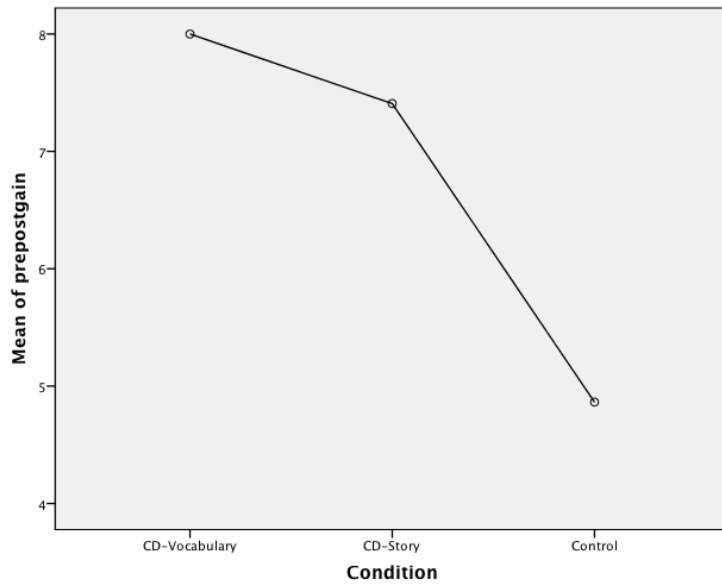


Figure 3. One-Way ANOVA Pretest-Posttest Means Gain Scores on Vocabulary Words Listwise $N = 76$.

Research Question Four Analyses and Answers. The results were further investigated and analyzed through the use of a mixed between-within subjects ANOVA” (Pallant, 2007; Tabachnick & Fidell, 2013), which measures an interaction effect between *time* and *condition* over time. This procedure was conducted with the pretest-posttest scores with a listwise $N = 76$, as shown in Figure 4, and with a listwise $N = 68$, as shown in Figure 6. Gains are further illustrated with a Gain Line Graph following in Figure 5 and Table 13 for the listwise $N = 68$ vocabulary word gains and means for students taking all three test administrations.

The subject mortality from the pretest-posttest to the retention test resulted in unequal group sizes; thus, the use of the Marginal Means or Profile Plots, (Pallant, 2007, p. 261) was necessary, to take into consideration each mean in proportion to its sample size.

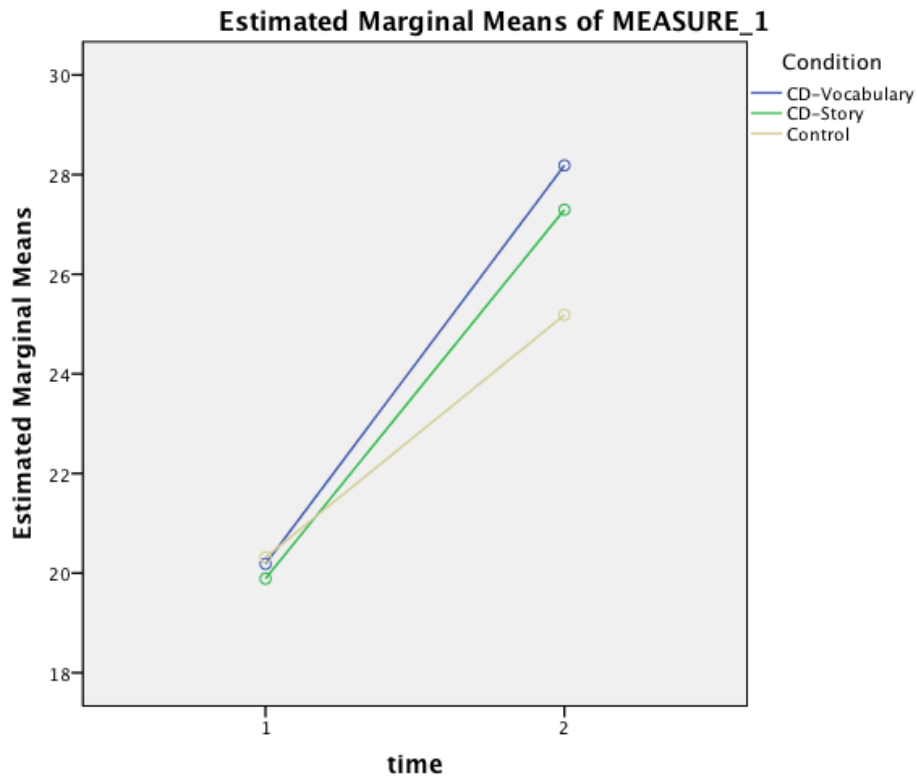


Figure 4. Estimated Marginal Means Pretest-Posttest: Change Over Time by Classroom Condition on the Vocabulary Test Listwise $N = 76$.

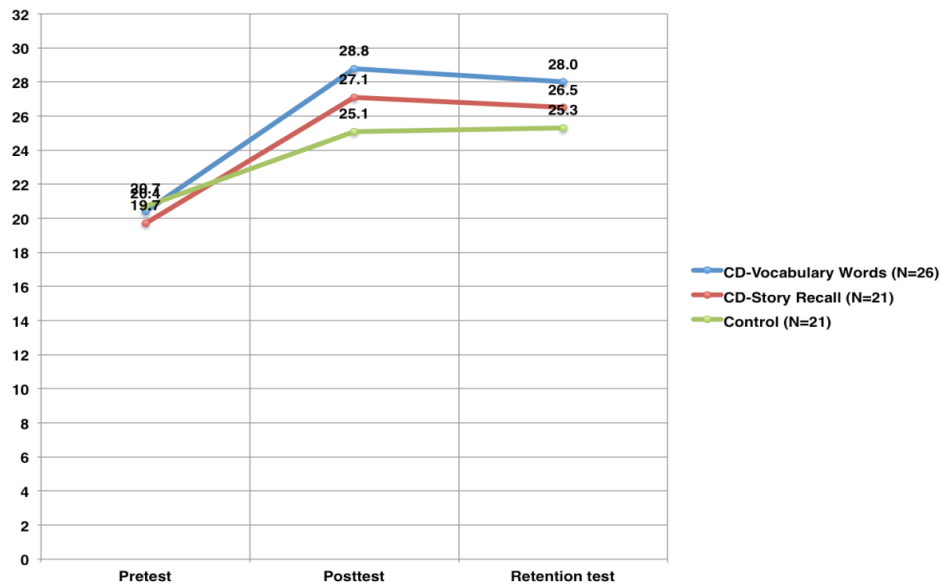


Figure 5. Gain Line Graph for Means of Vocabulary Words Learned by Classroom Condition Pretest, Posttest, and Retention Test Listwise $N = 68$.

Figure 5 and Table 13 illustrate the word gains for the pretest-posttest and word retention five weeks from the posttest, which included a two-week December break, and resulting in a listwise analysis of $N = 68$. All three groups maintained word retention at approximately the same rate.

Table 13: *Pretest-Posttest and Retention Test Means Gain Scores Comparisons on Vocabulary Words by Treatment Group Listwise $N = 68$*

Group	<i>n/N</i> by Group	Pretest-Posttest Means Gains by Student	Retention Test Means Gains by Student
Experimental Group I (creative dramatics and vocabulary words)	$n = 26$	7.65	- 0.8 of a word loss
Experimental Group II (creative dramatics and story retelling enactment)	$n = 21$	7.48	- 0.6 of a word loss
Control Group (group without creative dramatics)	$n = 21$	4.48	+ 0.2 of a word gain
Total	$N = 68$	6.54 Average Word Gains	- 0.4 of a word loss average from Pre- test-Posttest Means Gains to Retention Test

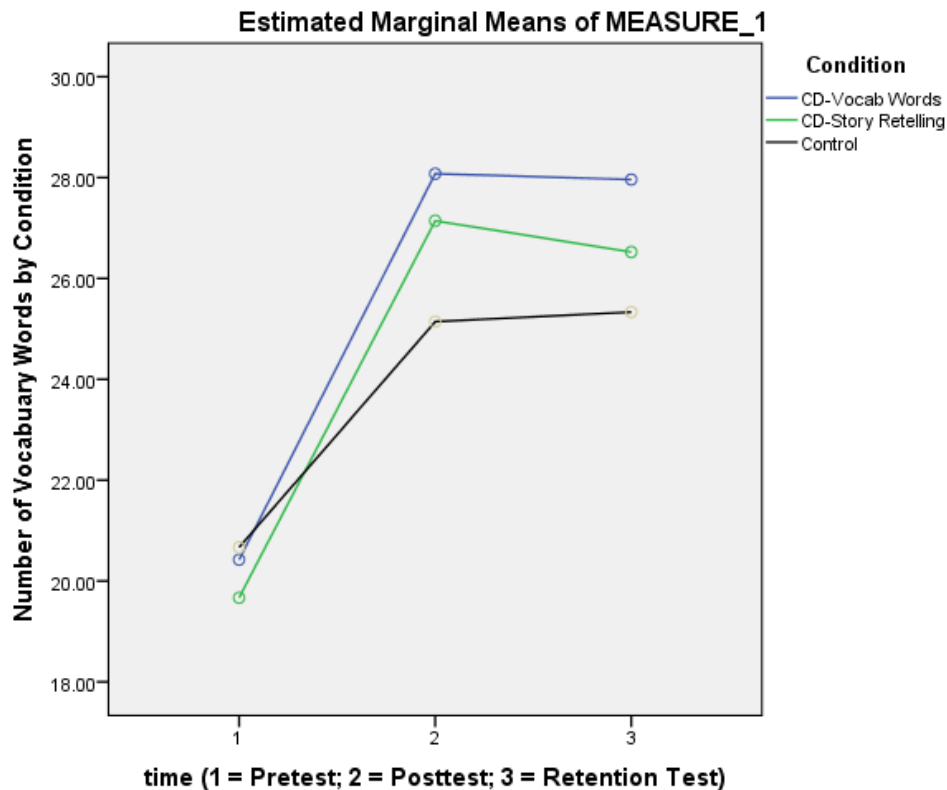


Figure 6. Estimated Marginal Means Pretest, Posttest, and Retention Test: Change Over Time by Classroom Condition on the Vocabulary Test Listwise $N = 68$.

Following, in Table 14 are the results Descriptive Statistics for Mixed-Between-Within Subjects ANOVA Comparing Pretest-Posttest and Retention Test Means Listwise $N = 68$. These results provide insight into the differences between the groups and treatment interventions in answering research four of this study. Moreover, the ANOVA results, coupled with the results of the non-parametric equivalent procedures—which are further validated by the results of the post-hoc test procedures—show where there is statistical significance between the creative dramatics interventions as compared to the control, and as compared to each other. Descriptive statistics calculated from all three measures of the pretest, posttest, and retention test are displayed in Table 15 for the listwise $N = 68$. The range of scores on the pretest was 19 words; the range of scores on the posttest was 12 words; and the range of scores on the retention test was 15 words—providing further validations for the treatment effects.

Table 14: Descriptive Statistics for Mixed-Between-Within Subjects ANOVA Comparing Pretest-Posttest and Retention Test Means Listwise $N = 68$

Test Administration	Condition	Mean	SD	N/n
	Experimental Group I (Creative Dramatics and Vocabulary Words [CDVW])	20.42	5.17	26

Pretest (0-31)	Experimental Group II (Creative Dramatics and Story Retelling [CDSR])	19.67	3.06	21
	Control Group (CG)	20.67	4.60	21
	Total	20.26	4.40	68
	Experimental Group I (Creative Dramatics and Vocabulary Words [CDVW])	28.08	3.14	26
Posttest (0-31)	Experimental Group II (Creative Dramatics and Story Retelling [CDSR])	27.14	2.24	21
	Control Group (CG)	25.14	4.03	21

	Total	26.88	3.40	68
	Experimental Group I (Creative Dramatics and Vocabulary Words [CDVW])	27.96	3.46	26
Retention Test (0-31)	Experimental Group II (Creative Dramatics and Story Retelling [CDSR])	26.52	2.73	21
	Control Group (CG)	25.33	3.92	21
	Total	26.71	3.53	68

Skewness and kurtosis scores, in Table 15, are within the normal range (below 1.0) on the pretest and posttest scores, and slightly above the normal range (above 1.0) on the retention test.

Table 15: *Descriptive Statistics: All Measures by All Groups Listwise N = 68*

Measure	Mean	Median	Mode	SD	Skewness	Kurtosis	Range
Pretest	20.264	19.00	18.00	4.386	.471	-.130	19.00 (11 - 30)
Posttest	26.882	28.00	29.0	3.396	-.755	-.387	12.00 (19 - 31)
Retention	26.705	27.00	27.0	3.532	-1.147	1.144	15.00 (16 - 31)

Table 16 provides the descriptive statistics for $N = 68$ comparing the three groups over three test administrations.

Table 16: *Descriptive Statistics: Pretest, Posttest, and Retention Test by Treatment Group Comparison Listwise N = 68*

Intervention	N/n	Pretest			Posttest			Retention Test		
		Mean	Median	SD	Mean	Median	SD	Mean	Median	SD
Experimental Group I (Creative Dramatics and Vocabulary Words [CDVW])	26	20.42	19.00	5.17	28.08	29.00	3.14	27.96	28.00	3.46
Experimental Group II (Creative Dramatics and Story Retelling [CDSR])	21	19.67	19.00	3.06	27.14	28.00	2.24	26.52	27.00	2.73
Control Group (CG)	21	20.67	21.00	4.60	25.14	24.00	4.03	25.33	26.00	3.92
Total	68	20.26	19.00	4.40	26.88	28.00	3.40	26.71	27.00	3.53

Additionally, Pallant (2007) suggested a one-way repeated measures ANOVA design be used when each subject is measured on the same continuous scale on three or more occasions, as in this particular investigation. Table 17, following, illustrates the results from a one-way repeated measures ANOVA, which compared the scores on the dependent variable teacher-researcher developed criterion-referenced 31-question vocabulary test used across the three test administrations.

Table 17: *Descriptive Statistics for One-Way Repeated Measures ANOVA Listwise N = 68: Teacher-Researcher Developed Criterion-Referenced 31-Question Vocabulary Test*

Time Period	N	Mean	Standard Deviation
Time 1 (Pretest)	68	20.26	4.40
Time 2 (Posttest)	68	26.88	3.40
Time 3 (Retention Test)	68	26.71	3.53

These significant findings further illuminate the generalizability of the results, and provide the detail of the data and analysis needed for educators to cite the results and this research in their *ESSA: Title I Part A, Sections 1008-1009* plans to include the arts as a part of educating the whole child. Specifically, the repeated measures ANOVA showed a statistically significant effect for *time*, Wilks' Lambda = .25, $F(2, 66) = 98.10$, $p = .000$, $\eta_p^2 = .75$. This data indicates a very large effect size for the creative dramatics treatments over *time*. These scores were compared at Time 1 (*the pretest administration prior to the intervention*), Time 2 (*the posttest administration following the 17 days of intervention*), and Time 3 (*five-week follow-up retention test*).

Overall, the word means gains of the three groups remained stable, indicating that the students retained their vocabulary achievement over five-weeks, which included the two-week December holiday vacation. Consequently, 65 of the listwise $N = 68$ students who were measured on all three test administrations gained vocabulary words throughout the study. Noteworthy, the findings provide statistically significant evidence that the students who practiced the two creative dramatics interventions had greater vocabulary achievement versus the control group.

Recommendations to Guide New Research

Limitations and Delimitations. The study limitations included those intervening or confounding variables out of the control of the researcher, and the delimitations were the limitations imposed by the researcher. They follow:

Limitations. Limitations included: equal numbers of males and females at the beginning of the study; student mortality throughout the three test administrations; the loss of 85 minutes of instructional time due to the students passing from their regular classrooms into their randomized study treatment classrooms; and the study school and district calendar schedule of the required basal unit of study occurring with multiple interruptions to sequential delivery of the treatments, as detailed in Figure 1. It can be inferred that these interruptions in the daily consistency of the treatment delivery impacted the student mortality and the results of the treatment that required 17 days of sequential and consistent treatment interventions. Some of these issues were magnified by the absences and attendance of study teachers, and the timing of the treatment during the 45-minute language arts block regarding the fidelity to the specific lesson plans as detailed in the study Appendices M, N, O, P, and Q. Further, the following effects were not measured: creative dramatics achievement; individual student social-emotional

effects; and the qualitative aspects of the study via the artistic processes (creating, performing, presenting, responding, and connecting)—including students dancing, singing, acting, creating, drawing, playing, improvising, and making music to demonstrate, communicate, and share their personal understanding of the four stories. These observed qualitative data, which also included photographs of the students in the three groups on a daily basis, were further validation and support to the quantitative results of the study.

Delimitations. The delimitations, or limitations imposed by the researcher included: requiring an entire fourth grade to randomize students and teachers; a focus on the effect of creative dramatics on vocabulary achievement; the use of the district's basal and at the district required timeline for such; conducting the study during the school day; classroom teachers providing the treatment; classroom teachers being trained by the researcher; the researcher daily observing in each classroom; involving the teachers in the development of the dependent variable and initial lesson plan; teacher confidentiality of their treatments with each other and their students; and using a pretest-posttest control group design.

Recommendations. A key recommendation by the researcher was to replicate the study with stricter controls, for a longer period of time, and with a larger sample size in order to validate the results. Such controls would include an attempt to control anything that could be controlled in a school environment that could negatively influence the treatment consistency and fidelity for the students and teachers in the experiment. Such control recommendations would be: no interruptions to the 45-minute daily language arts block of instruction for the duration of the study; such as, teacher illness and teacher in-service days that occurred during the daily scheduled treatment times of the language arts block, and required the need for substitute teachers; school and district assemblies; monthly fire drills; student announcements; and holidays and vacation days. Required school district drills, announcements, professional development activities, assemblies, and more, could be scheduled before or after the 45-minute language arts block during the 20 days of the experiment.

A further recommendation regarding the two treatment groups would be to provide the 15-20 minutes of prescribed creative dramatics daily treatments, during the 45-minute language arts block in the normal school day, at the beginning of each language arts block period, to ensure the agreed upon consistency and fidelity of the creative dramatics treatments and routine expectations of the students. Further, the control group teacher would also be required to teach the 10-15 minutes of the required language arts basal lesson involving the *Reader's Theatre* elements of the daily story recommendation, followed by the five minutes of journal reflection, at the beginning of each language arts block period, to ensure the agreed upon consistency and fidelity of the required basal instruction in the district's arts integration unit of study—required of all fourth graders in the study school district's adopted language arts curriculum: *Theme 2: American Stories: Focus on Plays* (Houghton Mifflin Reading, 2005). Should the study treatments be provided at the beginning of the daily 45-minute language arts block, to ensure that 15-20 minutes of the treatment would be experienced by students, there would need to be three researchers available on site for the study.

Conclusion

This specific study remains the only empirical, replicable, generalizable, and transferable study addressing the gap of vocabulary achievement and creative dramatics reporting statistical significance. It was further testified that the pattern of medium to large effect sizes found between the creative dramatics and vocabulary words (CDVW) intervention in comparison to the control group (CG) were sta-

tistically significant which lends validity to possible practical significance in teacher practice. Additionally, a medium effect size between the creative dramatics and vocabulary (CDVW) and the creative dramatics and story retelling (CDSR) interventions were manifest. Noteworthy, the study recounted higher vocabulary achievement of the two treatment groups versus the control group without creative dramatics; as well as acknowledging practical significance of the two treatment group teachers by multiple means through the parametric and non-parametric procedures used to analyze the results for generalization and possible replication; as well as personal testimonies of the two treatment teachers a year following the study completion.

Therefore, it can be inferred that the statistically significant findings shared in this article provide empirical evidence that sustained, researched, and consistent creative dramatics treatments, taught by classroom teachers and integrated into district required language arts instruction, improved the vocabulary achievement of students at the fourth grade level. Consequently, this data provides empirical evidence that the vocabulary achievement gained and maintained by the students who received the creative dramatics interventions is different from a normal population.

Therefore, the study provides a piece of empirical evidence to promote arts educational strategies for all learners – arts for ‘art’s sake’, integrated arts, and arts in the content areas or arts integration. Policymakers, administrators, and practitioners wishing to apply for funding for innovative ways to provide and integrate arts educational practices—via the artistic processes of creating, performing, presenting, responding, and connecting—may cite this study.

Significantly, this study meets the requirements of *ESSA: Title I Part A, Sections 1008-1009* as a *Tier 1* study representing strong empirical evidence to advocate for access to arts instruction for all learners during the school day—in innovative ways—as defined in the federal education law, and in efforts to provide a well-rounded education, that includes the arts, for every student (Bresler, Russell, & Zembylas, 2007; GovTrack.us, 2019; Jones, 2018/2019, pp. 27-29; USDOE, 2015). Consequently, the utilization of the study and results provide empirical research that can be used to support arts educational methods for all learners in their academic attainment. Finally, the results provide a pathway for the generalizability of the arts treatment strategies and methods employed in this study to other academic subjects and with other grade levels—nationally and internationally—regarding enhanced student achievement through arts educational interventions.

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Endnotes

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