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Instructional Methods for Limited English Proficient Students in Subject Area Courses

Kathleen E. Woodward, Ph.D.
University of North Georgia
1201 Bishop Farms Pkwy.
Watkinsville, GA 30677

Abstract

This paper studies the question of what instructional strategies are most effective for classrooms with limited English proficient (LEP) students when teaching history content courses. Two specific instructional strategies are researched. The first is the ordering of direct instruction and constructivist activities. Is it best to begin with direct instruction, then move to a constructivist activity or is it best to order lessons in reverse order? The results of the study also offer insight into the efficacy of doing only direct instruction vs. constructivist activities. The second question studied is regarding group vs. individual work. Which type of work results in the most and deepest content knowledge for LEP students and what is useful about each type of work?

A controlled experimental method was used with pre and post quizzes, teacher/researcher observation, and student surveys and interviews. The study finds that student learning is maximized for LEP students when direct instruction precedes a constructivist activity. Using both instructional strategies, but in this order, was shown to be the most effective instructional strategy. Individual vs. group work showed less clear results, but the student interviews provided insight into why LEP students sometimes prefer group work, even if their knowledge gained is not noticeably increased.

Keywords: Education**,** Limited English Proficient**,** English Language Learner**,** Instructional strategies

1. Introduction

This study begins with the broad question: What teaching strategies are most effective for students who speak English as a second language? Although many students in American schools speak a language other than English in their homes and therefore learned English as a second language, this study focuses primarily on students who are categorized as LEP, limited English proficient. This study seeks to identify effective teaching strategies for this population of students who are in classrooms where content curriculum material is primarily taught in English. These classrooms are called sheltered English immersion, or English only content classrooms, because they consist of only LEP students, which enable an instructional style that is most conducive to the needs of LEP students. The findings could, however, be extrapolated to mainstream classrooms that serve a large population of students for whom English is not the primary language used at home, regardless of whether the student was born in the United States.

This research was conducted at an urban high school in a large Midwestern city which, besides being in a very diverse neighborhood, also received all of the new immigrant students who arrived in the school district. The immigrant students are placed in special classes for all the subjects for three years. This research was conducted in a classroom consisting solely of these new immigrants who were being taught social studies. The author of this paper was the teacher in these classrooms; however, now works in a university. There were three different levels of classes: students at a beginning level of English proficiency, intermediate, and advanced.

The purpose of this study is to test and use evidence to better evaluate contesting pedagogical arguments regarding instructional methods. Methods need to be tested and the debate moved to an analytical dimension where decisions about teaching can be made based upon evidence acquired through empirical research rather than antidotal case descriptions. While no definitive answers may point without disagreement to which instructional strategies are best due to the numerous factors involved in teaching and due to disagreement over the value of *learning knowledge* versus creating a positive experience and building the *whole student*, at least some conditions and characteristics of students may be identifiable for specifying instructional methods which have been found to be most effective in building student content knowledge. This study aims to test instructional strategies that produce the most content knowledge among Limited English Proficient students.

2. Background and Literature Review

Limited English proficient students, also called English Language Learners (ELL) are the fastest growing population of contemporary students in the United States' public schools (Fayon, Goff, & Duranczyk, 2010). According to the National Center for Education Statistics (2012), approximately 10% of public school students in the US during the 2010-2011 school year were classified as English Language Learners (ELL). Between 1970-2000, they had increased from 1 to 5% (National Center of Educational Statistics, 2000). From 2000-2010, ELLs had increased from 5-10%. Several studies predict ELLs will continue to rise. Russakoff & Foundation for Child (2011) predict ELLs will reach 40% by 2030. Herbert (2012) predicts ELLs will be 40% of public school pupils by 2050. Immigrants tend to move to areas where people with similar backgrounds live. Consequently, some states, such as California, Texas, New Mexico, and Florida have higher percentages of ELL students in their school systems.

The United States is a country built upon immigration. Schools were historically a place of assimilation where children learned to be "American." Olson (2015) explains that the US has a long history of many languages being spoken in this land from colonial to present times, but in the 1880s, several states began mandates for English to be the language of educational instruction. In the 1960s, some groups began to lobby for special educational instruction for immigrant students on the premise that opportunities for learning were not present when non-native English speaking students were combined with native English speaking students. In 1968, the federal government passed the Bilingual Education Act, Title VII of the Elementary and Secondary Education Act, which was meant to provide federal money for school districts to give special instruction to non-English speaking immigrant children. This legislation was followed in 1974 with the Supreme Court, in Lau v. Nichols, declaring that non-English speaking immigrant children

had a right to special help in school and could not be denied equal opportunity in education. From 1968 to 1998, most immigrant children, in districts where resources were available, were placed in Transitional Bilingual Education classes. These classes taught content in the students' native language and were supplemented with a couple of English language courses. The goal of this act was to help non-native English speaking students achieve academically through gaining full literacy in their native language before moving on to a second language and through protecting self esteem by being in these segregated classes (Porter, 2001).

Despite these good intentions, research suggests no academic benefit to LEP students being placed in native language classrooms for several years before being integrated into mainstream classes. For instance, in 1997, the National Academy of Sciences published a review of 30 years of bilingual education research. The study found that there is no conclusive evidence that native language instruction results in higher academic achievement and that teaching English before literacy is obtained in the native language does not appear to be detrimental as argued by advocates of native language instruction (Porter, 2000). Furthermore, the high school dropout rates for Latino Spanish speaking students failed to rise (U.S. Department of Education, 1998). This is significant since two-thirds of the LEP students in U.S. public schools are Spanish speakers (Porter, 2000 and Olson 2015). In 2002, Congress passed the No Child Left Behind Act (NCLB) which created an accountability system of standardized tests in the states. President Obama in 2015, through Executive Order, reformed provisions in NCLB and renamed it Every Student Succeeds Act (ESSA). The testing required by NCLB shows the achievement gap between LEP and native English speakers remains very wide (McEneaney, Lopez and Nieswandt, 2014). The National Assessment of Educational Progress (NAEP) (2009) found that only 6% of ELLs were rated as being proficient in reading at the start of their fourth grade year in the US. Even in the states with the highest passage scores based on the Common Core Standards adopted by most states show some of the highest achievement gaps between students of color, LEPs, and white native English speakers (Fagundes, 2011).

Beginning in the 1990s, people began to question the effectiveness of bilingual transitional programs. This skepticism was spurred partly by the accountability movement, which wanted LEP students' progress to be assessed and schools to be held accountable for their achievement. Lobbying efforts of parents of bilingual children also increased because they wanted their children to be taught English as quickly as possible (Porter, 2000). The "silent majority" of LEP students' parents began to be depicted as wanting some variance of English immersion. National surveys conducted separately in the late 1990s by the nonpartisan groups, Public Agenda and Zogby International poll, each found that 75% of LEP parents polled wanted their children taught in English within one year (Porter, 2000). The movement for English immersion won a victory with California's passage of proposition 227 through a referendum in 1998. This proposition required all of California's school districts to replace native language instruction with one year of sheltered English content classes where LEP students were taught in separate, but English only, classes before being mainstreamed. Amid dire predictions of doom, the preliminary indications suggest that LEP students are fairing no more poorly than they had been under native language instruction and are in fact adjusting to English instruction rapidly, learning English more rapidly than in the past, and are showing improvements in their reading levels (Porter, 2000).

With this shift from native language instruction to English immersion, the nature of teaching LEP students has changed dramatically. LEP student instruction had previously gone from providing no special services in the pre-1968 era to segregating LEP students for several years from native speakers during the 1970s, 80s, and 90s. During the early 2000s, the trend was to take a more middle of the road approach by providing special services in the form of sheltered English only content classrooms, using native language tutors, and supplementing this with some classes teaching the English language. By 2010 several states had begun to move even further toward English language immersion by mainstreaming LEP students in content area classes mixed with native English speakers. English classes were required as electives. This research study focuses on the sheltered content classroom where LEP students are separated from the native English speakers but are taught in English with the assistance of tutors in their native language. The results of this study could be applied to teaching LEP students in a mainstream class since the focus is on learning content that is taught in English when English skills of the student are still developing. Content area teachers are finding themselves in this position more and more frequently; thus, the value of studies seeking to clarify how best to teach this rapidly growing population of LEP students.

An examination of literature that may be useful for guiding teachers of LEP students in content area classrooms, whether they are sheltered or mainstream, stresses the importance of vocabulary development for students to have success in learning content in core subjects (Qanwal & Karim, 2014 and Chung, 2012). Nam (2010) and Chung (2012) report that vocabulary is best developed through the use of visual representation, translation texts, and task-based activities, including fill-in-the-blank and matching activities. Other studies stress the importance of using metacognitive strategies and scaffolded new knowledge onto students' prior knowledge (Wei, Chen, and Adawu, 2014). Verplaetse (2001) examined the type of questioning that was most effective in getting LEP students to participate in mainstream classrooms. She found that LEP students respond best in predictable situations where they know what questions will be asked of them and when they have had a chance to practice their answers in a small group setting before answering in full class discussion.

A similar finding of LEP students' need for predictability was reported in Watson and Houtz's (2002) study of teaching science to LEP students. These authors suggest that LEP students fare best when given direct instruction in content material. They tend to flounder in classroom settings where they do not know what is expected of them, and when they are told to engage in "constructivist" classroom activities where they are supposed to learn through discovering information. According to this research, LEP students need to be directly told what they need to know to eliminate the ambiguity that arises from language and cultural differences. This is not to say, however, that teachers of LEP students should not connect this knowledge to the students' backgrounds and experiences so that they can make sense of it.

A study involving research on LEP students working one on one with another individual found that when given tutoring from a person with a higher reading level, the LEP students' reading levels improved more quickly than students in a control group (Li & Nes, 2001). The tutoring sessions included modeling the more skilled reader and rereading passages for both content and fluency. This finding is compatible with the above mentioned finding that LEP students need to prepare themselves through practice to speak and answer questions. Practicing in small group settings or on a one to one basis with a more skilled English

speaker whose style of speaking can be modeled is therefore one possible preliminary pattern in the research findings. This is substantiated by Webb's (2015) study of students learning to write in English. She finds students prefer one-one tutoring and direct instruction from the teacher, although they may reap unrealized benefits from small group discussions.

Another study examined how having LEP students tutor lower grade level LEP students affected their attitudes about school, motivation, and academic achievement. The researchers found that peer tutoring was very successful in keeping at risk LEP students in school and improved their academic achievement. Attitudes about self and school improved significantly, as did career goals that necessitate education (Rivera & Zehler, 1991). While this study reveals an important factor in keeping LEP students in school, this type of study does not help the teacher determine which instructional methods to use in the classroom. In a phenomenological study that recanted the oral life histories of three LEP students supplemented with shorter interviews of other LEP students and their parents, some patterns emerged (Roberts & Locke, 2001). The academic success of LEP students is suggested by this research to be contingent upon the student's ability to navigate academic and social expectations. Informal talk with other students was found to be critical in gaining access to the academic and social dimensions of school life and making sense of the expectations for students in American schools. The ability to network with teachers to gain extra help was also a key ingredient for success, as was understanding the cultural knowledge and mainstream values. Struggles of self-identity were common for LEP students, which sometimes impaired their academic and social adaptability. This research shows the importance of teachers providing time for informal discussion among LEP students or between LEP and native English speaking students. Based upon this research, teachers should also directly inform the LEP students what is expected of them in terms of classroom behavior and classroom work. This study highlights the importance of cultural differences of LEP students that might impede academic achievement. For instance, many cultures discourage speaking to the teacher unless directly asked a question. Expectations and cultural norms should be made explicit so that LEP students are not left to figure this out by themselves. LEP students may also need to be approached and engaged in discussion about adjustment problems academically and socially. However, teachers are still left seeking evidence based instructional strategies for teaching LEP students in content area classes taught in English.

2.1 How This Research Contributes to Existing Research

There is no widely accepted standard about what credentials should be held by a teacher of English only content classrooms but who teaches Limited English Proficient students. This is perhaps tied to the fact that it is not clear which instructional strategies are most appropriate for these students and these classrooms. Should these students be taught in the same manner that native English speakers are taught subject material or should these students be taught in the manner that English as a second language is taught? The difference is a matter of emphasis, even in an English only content classroom. There is no uniform standard about how to divide or separate the teaching of content or the teaching of the English language. Although both are being taught - one through the other - the choice of instructional methods may be influenced by the emphasis the teacher chooses. Combining both English instruction and content material, which is necessary

to some degree in any English only content classroom with LEP students, crosses traditional boundaries of teacher education and confuses the label of subject area or ESL teacher. Even if trained in both realms, a LEP content area teacher still straddles both domains and must piece together appropriate instructional strategies from both areas of pedagogy.

Methods of instruction and subsequently appropriate training for teachers of English language instructed LEP classrooms are areas that have not yet caught up with the shift in policy and practice from bilingual education to English immersion. Furthermore, teachers of mainstream classrooms will find themselves with many more LEP students now that they are mainstreamed much earlier than in the past. More research needs to be done on what strategies are most effective and for which students. Classroom instruction has not yet reached a level of individualized instruction for all students, but knowing what teaching methods have been shown to have the most success for which types of students, such as students from different regions of the world, can only benefit instructional decision making.

Through this research, I hope to contribute to research on which instructional strategies are most effective in teaching, with English being the language of instruction, content material to LEP students. This broad question of instructional strategy is used as the guiding question, but within that, the inquiry is broken into several components. First, the effectiveness of using both direct instruction and constructivist lessons will be examined. These two teaching approaches are not necessarily dichotomous and may be most effective when combined throughout the teaching of a topic. This study will examine the effectiveness of each strategy in teaching content area information through using a "value added" approach to knowledge acquisition. The ordering of direct instruction and constructivist activities will be examined to determine which one should be used first to achieve the best results in regards to student learning. This is explained further in the Methods section below.

A second area of instructional strategy to be addressed in this study is the grouping of students during lessons. This study will compare the effectiveness of direct instruction and constructivist activities in groupings of students with three or more students versus individual work. Both the amount of knowledge learned and depth of understanding will be examined.

3. Methods

The study took place in two ninth grade world history classes for students with limited English proficiency. These classes were both in the same Midwestern urban school with the same teacher. The two classes chosen each consisted of students classified as having the lowest level of English language ability. In a rating system that divided students into three levels of English ability, these students were coded as level A, the lowest level. Within the classes, there was variance in English ability, with some students having just arrived to the US and other students having lived here for a few years but still having low level skills in reading and speaking English. A tutor who translated portions of the lessons was present during these classes. This tutor translated into Spanish because over 90% of the students were Spanish speaking. They were mostly from Puerto Rico with some students from the Dominican Republic, Mexico, and El Salvador. A few students were from outside of the Hispanic world, with one from Armenia, one from India, a few

from Asia, and one from Kosovo. No translator was present in the classroom for them but one was available outside of class at least once per week.

The study took place across two units of study: "Fighting World War I" and "The End of World War I and How it Changed the World." The most effective grouping of students was examined, as well as the sequential order of direct versus constructivist instruction. The two groupings of students were: individual work and groups consisting of three or more students. One hypothesis in regard to placing students in groups is that the students learn best from each other because the less intimidating environment promotes questioning, clarification, and explanation of points among students with different zones of proximal development. Although the students are at varying levels, they are close enough to understand the difficulties that other students are having in understanding content material and thus well positioned to explain information to each other in a manner that is more easily understood than the teacher's explanation. On the other hand, previous observation in the classrooms to be studied has also shown that group work often promotes copying from each other with little explanation or understanding gained by the weaker students. Thus, this research should shed light on whether group activities enable greater learning of content material or merely provide an opportunity to copy and talk with friends without learning.

Individual work was used as a control for group work. This was chosen instead of whole class instruction or pairing of students because it is the most directly opposite form of "grouping" to three or more students in a group. Whole class instruction would involve the confounding variable of the teacher's style and effective instruction, while studying the pairing of students is similar to larger groups. Individual work involves each student attempting to make sense of the lesson or activity without help from other students. Prior observation of the classrooms under study has shown that the students are quieter while doing individual work as opposed to group work, but this quietness is perhaps not indicative of greater learning. This study sheds light on whether students sitting quietly in their seats, something that many teachers and administrators desire, is truly the most effective way for students to learn.

Besides studying the effectiveness of groups versus individual work for learning content information, this study examines the ordering of direct instruction versus constructivist activities. Arguments have been made on both sides that one or the other is the best way to teach, especially in regards to teaching LEP students. For instance, as noted in the literature review, Watson and Houtz (2002) found that LEP students do best when instructed directly on content material. I propose to study not just which one method of instruction is best, but how much "value added" is gained from using both and if it matters in which order the two methods of instruction are used.

Value added refers to how much knowledge is gained on top of pre-existing knowledge. If we follow the direction of previous studies indicating that direct instruction is best, then how much knowledge, if any, is gained if this is followed by a constructivist activity to reinforce the concepts learned? While it is hypothesized here that direct instruction is necessary in the beginning of a unit of study, as indicated by previous research, the question is whether it is worthwhile to follow this up with a constructivist activity. The possibility also remains, and will be tested in this study, that constructivist activities at the beginning of a lesson or unit of study, followed by direct instruction is most effective for teaching content material.

3.1 Testing of the Variables

Direct instruction and constructivist activities were alternated across two units of study within different student groupings: Individual work and three or more students. Knowledge was assessed after each lesson. Lessons lasted 1-3 days. The data, presented in the following section, consists of how much knowledge was gained after each type of lesson within a particular grouping.

A pre-test was given before each unit of study to set a baseline (see appendix). Assessment of knowledge was done after each lesson (1-3) days to keep track of how much knowledge was gained through the different methods of instruction and groupings. Of course, knowledge was gained throughout the course of any unit of study; this research, however, attempts to show through what ordering of instruction and grouping of students is the most knowledge gained. Reversing the order of methods of instruction for two different classes shows which order – direct instruction then constructivist activities or constructivist activities then direct instruction – is the most effective in terms of students learning the content material.

Assessment of knowledge included oral questioning after each lesson and a written test at the end of the unit (see appendix). Oral questioning was chosen because during preliminary trials, the students showed test anxiety with too many written quizzes, which seemed to impede their learning. The oral questions follow a rubric rating the student from 1-10 on four dimensions: Learned facts, analyzed facts, put facts into previous knowledge, and deduced information from facts. Different questions were used after each lesson, but both classes in the research eventually received the same lessons with the same questions used to assess knowledge in each class. The rubric allows for the assessment of the "depth of knowledge" so frequently cited by constructivists as the advantage of constructivist instructional strategies.

The rubric and end of unit tests were combined with data from student surveys at the end of the study and six selected student interviews from each class (see appendix). Both the surveys and interviews ask the students about what method they found most effective for their own learning, as well as which method they enjoyed most. Students were also asked to state what they learned through the lessons. Themes in the students' responses are identified in regards to how they best learn content material. Interviews use open ended questions and lasted ten to twenty minutes each.

Teacher observation notes noting the students' participation was also recorded daily throughout the study. A rating of 0-10 was used in a column beside the students' names to record their daily score. Participation included actual participation, attentiveness, and enthusiasm. This is a subjective rating, but was undertaken by the teacher and the mentor teacher also present in the room. Scores that differed by more than two points for a student on a rating were thrown out. Patterns were also looked for in observation notes kept by the teacher.

Finally, it should be noted that in this study, direct instruction refers to the teacher "imparting" knowledge to the students through the instructional methods of lectures and copying notes from the overhead. The completion of worksheets by the students is also included in the category of direct instruction when the worksheet primarily asks for a "regurgitation" of information given in lecture or in notes. The viewing of slides and other visuals is also considered direct instruction when the teacher is imparting information about the slides to the students.

Constructivist activities, on the other hand, include those that require the student to find and make sense of knowledge him or herself. The knowledge may, but need not necessarily, directly relate to the students' own experiences. For instance, activities such as students finding their own genealogies and writing about people in their families focusing on a historical period being studied in class is a constructivist activity that relates directly to the students' life experiences. However, this study uses the constructivist label to also cover activities such as writing a fictional newspaper based upon historical fact that might have been published during a historical period. Although the latter activity does not relate directly to the student's life, the student is still engaged in the process of sorting through information, making sense of it, and piecing it together in a way meaningful to him or her through the creation of something.

Another constructivist activity includes students' interpreting slides by discussing what the people in the slide are doing and thinking and even having students act out the scene. These latter examples of constructivism place the emphasis on the student piecing together information in a way that is meaningful to him or her regardless of its direct connection to the student's experiences. Teachers may at times find it difficult to relate everything taught in the classroom to their students' lives; however, they can still use activities that encourage the students to make sense of knowledge in their own ways through having them create something that requires the student to piece together knowledge.

4. Data Analysis

The pre-tests for each unit of study showed that the students had essentially zero knowledge of the topics to be covered in the units. Below, table 1 shows the average scores of the ten students studied in each class after each lesson. Each student's score was an average of the four dimensions on the rubric. The ten students' scores in each class were then averaged together to get a composite picture of how effective were the different lessons and grouping of students. Specific information about the lessons is also provided in the table.

Table 1: Constructivist and Direct Instruction with Individual Lessons: Fighting World War I

Grouping: Individuals	
Class 1	**Class 2**
Pre-test Assessment Score: Zero knowledge	
Topic: World War I: Weapons of the war	
Direct instruction: Copy notes on weapons of the war.	Constructivist activity: Draw a poster of weapons of the war and write sentences about each weapon underneath the pictures. Students write a paragraph pretending they are a soldier in a chosen battle of WWI.
Assessment of knowledge Score after First Lesson: 3	**Assessment of knowledge Score After First Lesson: 4**
Constructivist activities: Draw a poster of	Direct instruction: Copy notes on weapons of the

weapons of the war and write sentences about each weapon underneath the pictures. Students write a paragraph pretending they are a soldier in a chosen battle of WWI.	war.
Assessment of knowledge Score after Second Lesson:8	**Assessment of knowledge Score after Second Lesson: 6**

The average scores of students after each method of instruction with individual grouping

During the same unit "fighting World War I," students were grouped into three or more students and their knowledge was assessed following the different types of instruction. Below is the information for this part of the study.

Table 2: Constructivist and Direct Instruction with Group Lessons: Fighting World War I

Grouping: Three or more students to a group	
Topic: World War I: Military Strategy	
Class 1	**Class 2**
Direct instruction: Work on worksheets – fill in blank from reading.	Constructivist activities: Teacher gave students pictures from fighting WWI and wordbanks.. Groups glued the pictures on paper and made captions for the pictures. They then presented their posters to the class.
Assessment of knowledge Score after First Lesson: 2	**Assessment of knowledge Score after First Lesson: 5**
Constructivist activities: Teacher gave students pictures from fighting WWI and wordbanks.. Groups glued the pictures on paper and made captions for the pictures. They then presented their posters to the class.	Direct instruction: Work on worksheets – fill in blank from reading. Still studying fighting World War I.
Assessment of knowledge Score after Second Lesson:8	**Assessment of knowledge Score after Second Lesson: 6**
Unit exam: 81%	**Unit exam: 69%**

The average scores of students after each method of instruction in groups of three

Below two tables are presented about student learning during a different unit under study. The students were assessed following lessons taught through direct instruction and constructivist activities in two different groupings.

Table 3: Constructivist and Direct Instruction with Individual Lessons: The End of World War I and its Effects on the World

Grouping: Individuals	
Class 1	**Class 2**
Pre-test Assessment Score: Zero knowledge	
Topic: Treaty of Versailles	
Direct instruction: The teacher gave overhead notes on what each of the Big Four Countries wanted while negotiating the Treaty of Versailles and what the treaty ended up saying.	Constructivist activities: Students were to find out what each country (Big Four) wanted in negotiating the Treaty of Versailles and write why each country wanted this. They then were to state if they thought the treaty was fair to Germany.
Assessment of knowledge Score after First Lesson: 2	**Assessment of knowledge Score after First Lesson: 3**
Constructivist activities: Students were to find out what each country (Big Four) wanted in negotiating the Treaty of Versailles and write why each country wanted this. They then were to state if they thought the treaty was fair to Germany.	Direct instruction: The teacher gave overhead notes on what each of the Big Four Countries wanted while negotiating the Treaty of Versailles and what the treaty ended up saying.
Assessment of knowledge Score after Second Lesson:7	**Assessment of knowledge Score after Second Lesson: 5**

The average scores of students after each method of instruction with individual grouping

After assessing student learning using the two different types of lessons with students grouped individually, students were taught through direct instruction and constructivist activities while in groupings of three or more students.

Table 4. Constructivist and Direct Instruction with Group Lessons: The End of World War I and its Effects on the World

Grouping: Three or more students to a group	
Topic: The changed political map of Europe, Mid-East, and Africa	
Class 1	**Class 2**
Direct instruction: Fill in blank maps of Europe, Mid-East, and Africa before and after WWI. The information was supplied to the students.	Constructivist activities: Make play-dough maps of Europe, Mid-East, and Africa before and after WWI (although this is similar to the direct instruction lesson, the students got to build

	something with their hands and saw the malleability of borders and is therefore considered constructivist).
Assessment of knowledge Score after First Lesson: 3	**Assessment of knowledge Score after First Lesson: 5**
Constructivist activities: Make play-dough maps of Europe, Mid-East, and Africa before and after WWI (although this is similar to the direct instruction lesson, the students got to build something with their hands and saw the malleability of borders and is therefore considered constructivist).	Direct instruction: Fill in blank maps of Europe, Mid-East, and Africa before and after WWI. The information was supplied to the students.
Assessment of knowledge Score after Second Lesson:8	**Assessment of knowledge Score after Second Lesson: 6**
Unit exam: 80%	**Unit exam: 72%**

The average scores of students after each method of instruction in groups of three

4.1 Summation of Data Analysis

The rubric scores were striking in that when a constructivist activity was done first, the scores were uniformly higher than students who did the direct instruction activity. However, that initial appearance of constructivist activities being more effective than direct instruction became more clouded when the methods of instruction were paired and the impact of order was assessed. After the implementation of both types of lessons, the scores were higher for the class that did direct instruction before a constructivist activity. Therefore, although doing a constructivist activity first initially appears to be better, it is actually better to use the constructivist activity as a follow up to direct instruction. This was true for both units of study and across both individual and group work.

It is difficult to discern the benefits of working individually or in a group. This variable is problematic because the topics of study within the units were slightly different when the students were switched to group work from what the topic was under individual work. This makes a true comparison difficult. More classes would need to be studied doing the same lessons but with different groupings. Furthermore, during this study, the students tended to talk with each other, asking questions of each other and helping each other during individual work. Thus, the true individual nature of the work was lost. It is, however, interesting to note that there is very little difference between the scores of students when given individual or group work. Perhaps the variable does not produce a large difference in outcome. More studies are needed to determine the impact of the grouping of students as the evidence is inconclusive here.

Participation scores of the ten students for each class used in the study are interesting because the students seemed to be more engaged in the lessons that were constructivist. Students were more attentive, enthusiastic, and participated more if asked a question during individual work and in helping the group

when group work was used. They especially enjoyed group work but it was noted in the teacher's observation notes that the students had some trouble staying on task during group work.

The teacher's observation notes repeatedly noted the improved enthusiasm of students when doing constructivist activities following direct instruction. When the constructivist activity was done first, the students were very confused and did not stay on task saying that they just did not understand what to do. While direct instruction was a bit boring, the students seemed to want it before being given constructivist activities. When lessons were done in this order, students were actively engaged. Surveys and interviews of students showed that they enjoyed constructivist activities more but admitted they needed some teacher imparted knowledge prior to the more "fun" activities.

In the survey given to students, the students answered that they learned from both traditional and constructivist activities. The answers averaged a 3.5 on the statement "I learned a lot from traditional methods of instruction" and a 3.6 on the statement "I learned a lot from creating something." But when asked from which lessons they learned the most, responses averaged 3.8 for constructivist activities and 2.5 for traditional activities. When asked from which type of instruction did they learn the most: direct instruction or constructivist, the students seemed confused by answering yes to both questions. In the interviews, it became apparent that they felt both types of instruction were needed and did not understand the question. Students answered the question of which type of instruction was best first with a resounding 85% stating they preferred direct instruction prior to a constructivist activity.

Interviews supported the above survey information and rubric score results. Students were clear that they needed the teacher to "teach" them first then they could make sense of a constructivist activity and enjoy it without too much confusion. If a constructivist activity was thrown at them and they were to find the information without prior knowledge on the topic, the students felt confused and tended to drift their attention elsewhere. As stated, observation notes of the teacher further support this conclusion.

As for the grouping of students, most students stated they preferred to work in groups over individual work. The response on the survey was 3.9 when asked if they enjoyed working in groups of three or more people. The average response for enjoying working alone was 1. The response for learning from these different groupings was similar although not as extreme. For the survey question on learning most in groups, the response was 3.5 whereas is was 1.8 for learning most through individual work.

Interviews backed up these responses with students stating they needed to ask other students questions about the assignment regardless of whether it was direct instruction or constructivist. They felt shy to ask the teacher all of the time and preferred to ask other students. Students felt stymied when they could not ask another student about a question or directions and felt they learned more when this was openly allowed. This need partly explains the talking during individual work. It also highlights the need limited English proficient students, and perhaps others, have to clarify instructions and problems encountered during an assignment. Therefore, even if the results of the assessment of knowledge scores were inconclusive in regards to the grouping of students, students themselves were clear on their need to work together in groups. For successful group work, however, they required prior knowledge given through direct instruction.

5. Conclusion, Limitations, and Further Research

The above data analysis shows that direct instruction followed with a constructivist activity produces the highest attainment of content knowledge for students with limited English proficiency. Although constructivist activities were more effective than direct instruction when compared one to one, when the two types of instruction were combined, ordering them so that direct instruction came prior to a constructivist activity was the most effective for student knowledge acquisition. The "value added" knowledge gained through adding a constructivist activity on the back of a directly instructed lesson was greater than if the reverse order were done. Thus, it is important not to simply argue for one or the other type of instruction, but to note the need to effectively pair instructional methods and use both methods of instruction in a manner most effective for teaching students content material.

The results were inconclusive for the variable of the grouping of students. While students themselves stated their preference for working in groups, determining if this actually improved their knowledge acquisition would require further study with more classes and students. Since keeping them on task during group work was the most pressing problem noted by the teacher, and since the students stated that they strayed from the task when they were confused about the assignment, as occurred when constructivist activities were given prior to direct instruction, then perhaps group work is most effective when the students have some prior knowledge of the topic given through direct instruction.

Further studies are needed to test this hypothesis. It would also be interesting to note if the above conclusions are only valid for certain populations of students. For instance, is it only for LEP students that the conclusions hold true or is the same true for other populations of students? If it is only for LEP students, then why is this? These and other questions can only be explored through further studies that include other sets of student populations.

Appendix A

Assessment of Lessons Survey

Rate the following according to a scale of 1-4.

1 is strongly disagree **2** is somewhat agree **3** is agree **4** is strongly agree.

1. I learned a lot from copying notes from the overhead.

   1 2 3 4

2. I enjoyed copying notes from the overhead.

   1 2 3 4

3. I learned a lot from listening to the teacher tell about information in the unit.

1 2 3 4

4. I enjoyed listening to the teacher tell about information in the unit.

1 2 3 4

5. I learned a lot from completing worksheets.

1 2 3 4

6. I enjoyed completing worksheets.

1 2 3 4

7. I learned a lot from doing activities where you created something, such as a newspaper, song, etc.

1 2 3 4

8. I enjoyed doing activities where you created something, such as a newspaper, song, etc.

1 2 3 4

9. I learned a lot from working in groups of three or more people.

1 2 3 4

10. I enjoyed working in groups of three or more people.

1 2 3 4

11. I learned a lot from working in pairs.

1 2 3 4

12. I enjoyed working in pairs.

1 2 3 4

13. I learned a lot from working alone.

1 2 3 4

14. I enjoyed working alone.

1 2 3 4

15. I learned a lot from working as a whole class.

1 2 3 4

16. I enjoyed working as a whole class.

1 2 3 4

17. I learned more from the traditional methods of teaching (note taking, lecture, and worksheets) rather than the projects where you create something using the information in the unit of study. Yes No (circle one)

18. I enjoyed the traditional methods of teaching (note taking, lecture, and worksheets) more than the projects where you create something using the information in the unit of study. Yes No (circle one)

19. I learned more from the projects where you create something using the information in the unit of study rather than the traditional methods of teaching (note taking, lecture, and worksheets). Yes No (circle one)

20. I enjoyed the projects where you create something using the information in the unit of study more than the traditional methods of teaching (note taking, lecture, and worksheets). Yes No (circle one)

21. From which lesson did you learn the most? Why? What did you learn? (write your answer). _____

22. Which lesson did you enjoy the most? Why? What did you learn? (write your answer). _____

Appendix B
Interview Protocol

Six students were interviewed from each class. The students were from a range of academic abilities and achievement. Each interview lasted approximately fifteen minutes. Several open ended questions were asked. Questions included items such as which activities and units did the student enjoy most, why? Which did he or she learn the most from, why? What did he or she learn? How does the student feel he or she learns best? What is the study method preferred? What classroom style is preferred and why? Give examples of activities/lessons which were most beneficial. Students were encouraged to give their evaluative opinion of their own learning and the classroom instruction in this manner.

Appendix C
Rubric for Assessing What Students Learned During Lessons

	Learned Facts	Analyzed Facts	Put facts into Previous Knowledge	Deduced Information from Facts
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				

A score of 1 was limited knowledge. A score of 10 was a lot of knowledge. An "X" was placed in the appropriate box after asking the student a series of questions. Notes could be written directly onto this chart about the student's knowledge. The above rubric was used to assess breadth and depth of knowledge.

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