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ABSTRACT

This study investigated whether vertical (grade level sequence) alignment of the curriculum in conjunction with teacher collaboration would enhance student performance on the Texas Assessment of Academic Skills (TAAS) test in south Texas school districts of various sizes. Surveys were mailed to the office of the superintendent of 47 school districts with varying student populations. Respondents rated statements about the degree of vertical alignment and collaboration in their district. The study used the Exit-Level TAAS as the standardized test to determine the level of student achievement. A total of 27 out of the 47 school districts returned the survey, and 23 were usable. Researchers determined growth on the TAAS by calculating the difference between the 1997 grade 10 percent passing all tests and the 1994 grade 10 percent passing all tests. Test scores came from the Academic Excellence Indicator system report. Data analysis indicated that there was no significant correlation between the degree of vertical alignment/collaboration and growth on the TAAS test from 1994-1997 as there was growth in student achievement on the grade 10 TAAs for all districts from 1994-1997 regardless of degree of vertical alignment/collaboration. There was also no significant correlation between the degree of vertical alignment/collaboration and percent of students passing all tests on the grade 10 TAAS. (Contains 23 references.) (SM)

Vertical Alignment and Collaboration

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Table of Contents

I. Introduction	3
II. Literature Review	4
III. Methods of Procedure	19
IV. Data Analysis	22
V. Summary and Conclusions	27
VI. References	31
VII. Appendix	34

Introduction

In 1983, The Carnegie Foundation's report, *A Nation at Risk*, began a public dialogue concerning the condition of American education. This rather recent discourse generated a wealth of reform initiative including *Curriculum and Evaluation Standards for School Mathematics (1989), The National Education Goals Report: Building a Nation of Learners (1991), Goals 2000: Educate America Act (1994), National Standards in American Education: A Citizen's Guide (1995),* and the annual *Goals Report: Building a Nation of Learners.*

As a result of the national focus on reform, states throughout America pushed for change in curriculum at the local level. In Texas, the response to the need for change resulted in a set of "essential elements," recently revised to the *Texas Essential Knowledge and Skills* (TEKS) for each core discipline. In response to the call for accountability, the *Texas Assessment of Academic Skills* (TAAS) was developed. School districts throughout the state then designed strategies which attempted to vertically align their curricula to determine specific knowledge needed for grade-level mastery of the TEKS. Vertical collaboration, or planning and implementing the curriculum sequence from one grade level to the next, emerged as an essential component of the process.

This study will determine correlation between the growth in student test scores and the degree of vertical alignment and collaboration among South Texas districts of various sizes. The study may assist area school districts in determining if vertical alignment and collaboration enhances student performance on the TAAS test.

Literature Review

Historical Perspective

The teacher/learner relationship predates civilization; however, the earliest record of the roots of western curriculum dates back to educational reforms in Greece during the fifth century B.C. The apprenticeship system defined which skills one generation would pass to the next. The transfer of cultural information would be acquired through rote memorization; thus, pitiable Greek school children diligently learned to recite the Iliad and the Odyssey. By the fourth century, Plato would scathingly criticize such methodology in the Republic (Gutek, 1997).

The established schoolsof Plato (the Academy) and Aristotle became the models for European schools for the next millennium, until Christian churches began to heavily influence curriculum. By the 1700's, educational philosophers (whose ideas conflicted with conventional practices) proliferated. Although the theories of Pestalozzi, Herbert, and Froebel did not make it into the classrooms of their contemporaries, their influence can be seen today in the variety of curricular designs in American schools (Tanner and Tanner, 1995).

Yet the issue of what subjects should be taught and how to best teach them is still being debated. Herbert Spencer, in his Essays on Education and Kindred Subjects, (1911), asks the question in his treatise by the same name, "What Knowledge is of Most Worth?" Herein he outlines the educational needs of students as those that prepare one for life, skills of self-maintenance and self-preservation. Although most schools have mission statements including similar verbiage, little has changed logistically for most schools since the Committee of Ten listed its "Range of Curricular Offerings" in 1893,

and the Committee of Fifteen decided how much "seat time" should be devoted to each discipline in 1895 (reprinted in Tanner and Tanner, 1995). Both committees aligned curriculum in a vertical fashion, designing a scope and sequence of course offerings which they felt should be taught in elementary and secondary schools.

In today's educational jargon, however, curriculum alignment has come to mean testing what is taught and, more insidiously, teaching the test. The advent of standardized testing as a means of assessing student achievement (and thereby a school's effectiveness) has changed the face of curriculum development in America forever.

Modern Rationale: National and State Perspectives

In 1983, "A Nation At Risk" issued these fighting words to the American educational system: "The educational foundations of our society are presently being eroded by a rising tide of mediocrity that threatens our very future as a nation and a people. We have, in effect, been committing an act of unthinking, unilateral educational disarmament" (National Commission on Excellence in Education, 1983, p.5). From that point forward, U.S. public schools have attempted numerous reform initiatives including whole language, writing across the curriculum, higher order thinking, outcome based education, portfolio assessment, and integrated curriculum among many others (Tanner, 1995). Vertical alignment along with its inherent content and performance standards entails a comprehensive reform of the curriculum from grade one through grade twelve. If successful, educators will have finally decided on an answer or perhaps a process in response to Herbert Spencer's words: "Not only is it that no standard of relative values has yet been agreed upon; but the existence of any such standard has not been conceived in a clear manner. And not only is it that the existence of such a standard has not been

clearly conceived; but the need for it seems to have been scarcely even felt" (Spencer, 1911, p.4).

On March 31, 1994, President Clinton signed into law the most recent Goals 2000: Educate America Act which somewhat reduces the national involvement in state reform initiatives, but still delineates the country's educational priorities (Goals 2000, 1996). This Act encourages "the development of national performance standards in the core subject areas of science, math, history, geography, English, and foreign languages"(Lunenburg, 1996, p. 257). These priorities are also reflected in the 1997 Goals Report: Building a Nation of Learners which recommends "setting tougher standards and aligning all the components of the educational system with these standards" (p. vii). The National Education Goals Panel, a bipartisan body of federal and state officials, was created in 1990 to monitor, assess, and report yearly on both state and national progress toward accomplishment of the National Educational Goals (National Educational Goals, 1997).

In 1996, the Goals Panel focused on standards and assessments. In chapter one, "Setting Standards and Creating Assessments at the State and Local Levels," of the 1996 National Education Goals Report findings indicate that thirty-two states have developed state standards and an additional fourteen states are currently developing standards. Forty-five states have statewide assessment systems. Twenty-three states report that they have aligned their assessments with their standards with an additional twenty-one states currently in the process of alignment. The Goals Panel also reported that twenty-eight of the nation's largest urban districts are in the process of developing or adopting their own standards as well as aligning those standards with local or state assessments.

Between 1990 and 1995, a longitudinal study of standards-based reform was conducted in California, Connecticut, Florida, Georgia, Kentucky, Minnesota, New Jersey, South Carolina, and Texas. Some of the findings include:

1) In 1995, standards remained a key feature in all nine states' educational policies.

2) The majority of states defined their standards broadly, intentionally leaving specific performance standards to individual districts.

3) Many districts attempted to match or exceed state initiatives.

4) Lack of public support and understanding of standards-based reform remained major obstacles to implementation and acceptance (Massell, 1996).

In 1997, the Texas State Board of Education adopted the Texas Essential Knowledge and Skills standards. The TEKS contain basic understanding, knowledge, and skills expectations, and performance descriptions for each content area. All core academic areas are included, as well as occupational education courses, physical education, ESL, technology, art, and other languages. Implementation throughout the state is scheduled to begin September 1, 1998 (Texas Education Agency, 1997).

In a sense, one could make a case that Texas has already aligned the curriculum vertically through a system of testing (TAAS) which predetermines what knowledge is of the most worth for each grade level. The mastered skills from one year provide the base for the skills built on the following year and so on until graduation. One could additionally argue that the state has also done this through the TEKS (Texas Essential Knowledge) which are supposed to be in the hands of every classroom teacher, providing a framework for instruction. (TEKS, Texas Educational Agency, 1997). If this system

proved sufficient, it would seem logical, then, that all schools under the same program of alignment would be performing at a similar level. The wide variety of school performance shows otherwise (TAAS score report, TEA, 1997).

Although most states, such as Texas, "...are in the process of or have developed state [academic] standards ... yet only 13 state documents are specific enough to be used effectively by teachers" (Marzano ,1995, p. 4). Few states have had full implementation of standards and assessment for any length of time Some states are implementing standards in response to lawsuits; others are voluntarily taking on the projects in order to make their systems more efficient, often in anticipation of national standards (McDonald, 1995). In reviewing the literature, many studies describe ongoing attempts at reform, but few studies were found which evaluate the effects of these reforms. As per subsequent analysis, most of the research on curriculum shows two factors emerging as key components to a successful curriculum: relevance and collaboration.

Vertical Curriculum Alignment: Determining Relevance

The first aspect to consider in vertically aligning curriculum should be relevance. Beatrice and Ronald Gross address relevance in Radical School Reform (1969). Their chapter, "What's Worth Knowing?" outlines a K-12 curriculum based on a series of open-ended questions. A few examples follow:

What do you worry about the most?

What, if anything, seems to you to be worth dying for?

What is change?

Where do new ideas come from?

What are the conditions necessary for life to survive (p. 165)?

One may scoff at the practicality of the average teacher trying to teach from such a nebulous framework. Yet the approach typifies the free-thinking of the 1960's and represents the opposite of the curriculum anchored by the Committees of the 1890's (Gross, 1969).

More recently, a movement to determine relevance and to vertically align curriculum has involved more than educators. A town meeting concept has proved an effective tool in determining what to teach. In Vermont, the Common Core of Learning Project brought community and schools together in a partnership to direct their curricula to meet their needs (Steven Gross, 1996). The director describes his joy as "ideas...flowed freely", and "...a new kind of support and connection to the school's mission emerged" (p. 2). He claims great success in a group effort which examines the question: "What skills, knowledge, or abilities will all learners need to be successful in the 21st century"(p.4)? Furthermore, he applies the first question to the second, asking: "What programs do you know, either here or elsewhere, that are in harmony with the ideas you just invented"(p. 4)? Finally, he asks for concrete activities which the school and community can undertake to reinforce the core knowledge that the community has determined most relevant (Gross, 1995).

Maine also instituted a Common Core of Learning Project. The representative group of "educators, community members, and business people...described a model of education that blurred traditional subject areas" (Gaidamus and Walters, 1993, p. 31) and integrated a set of outcomes into four "transdisciplinary categories" (Guidimas and Walters, 1993, p. 32). New assessment procedures were designed to measure skills and "benchmarks" or developmental levels the group felt students should be expected to

achieve by certain points in their K-12 career. Here, they add the vertical alignment component.

The successes of Core Knowledge Curriculum are highly noted. In 1992, CBS Evening News showcased The Mohegan School in the South Bronx in an "Eye on America" segment. After adopting Core Knowledge guidelines, the inner-city school went from teaching a remedial curriculum to implementing one with rich content laid out with specific "grade-by-grade guidelines" (Hirsch, 1993). Consequently, indicators show fewer discipline problems, lower absenteeism, and higher standardized test scores. Thus, Core Knowledge curricula once again demonstrate the vertical alignment component as intrinsic to instruction. Professor Hirsch, of the University of Virginia, has established The Core Knowledge Foundation (formerly the Cultural Literacy Foundation) in 1986 to advocate a strong elementary core curriculum designed to improve the quality of later schooling. The foundation has also published its own vertically-aligned curriculum guide, The Core Knowledge Sequence for Grades 1-6, a one-hundred-page guide to essential knowledge (as they have so determined) (Hirsch, p. 25).

The Core Knowledge concept seems to hold a great deal of promise in offering the points of progress necessary to vertically align any curriculum. The biggest sell of the concept may be the expanse of its umbrella; it involves all citizens in its design and implementation. The program, pioneered in Fort Myers, Florida, in 1990, is currently used in hundreds of schools nationwide. Bruce Frazee, a professor at Trinity University in San Antonio, Texas, offers some advice to schools who want to take the principle from "theory to practice." He outlines the essential components: aligning the community group's ideas with state and local guidelines, gaining commitment from teachers, and

giving teachers time to collaborate "across grade levels and among schools" (Frazee, 1993, p. 28).

Despite this advice, one study demonstrates how much still needs to be done to ensure success in standards-based reforms. In a survey of fifty states and the District of Columbia, thirteen states reported that collaboration was mandated by state statute or regulation. Nineteen states indicated that collaboration among schools, colleges, and departments of education is encouraged, but not mandated. Only sixteen of the states reported having mandates for the alignment of teacher education curriculum or professional development with the content standards of grades P-12 (see Table 1). These findings indicate little alignment between teacher education programs or professional development and the content standards which delineate teachers' instructional emphasis (Yff, 1996, pp.3-11).

Table 1: State Positions on Alignment of P-12 Content Standards with Teacher Inservice or Teacher Education Curriculum

STATE	MANDATED	ENCOURAGED	NEITHER
Alabama			√
Alaska	Yes		
Arizona	Yes		
Arkansas		Yes	
California	Yes		
Colorado	Yes		
Connecticut		Yes	
Delaware		Yes	
District of Columbia			√
Florida	Yes		
Georgia		Yes	

STATE	MANDATED	ENCOURAGED	NEITHER
Hawaii		Yes	
Idaho		Yes	
Illinois	Yes		
Indiana		Yes	
Iowa			√
Kansas		Yes	
Kentucky	Yes		
Louisiana		Yes	
Maine		Yes	
Maryland		Yes	
Massachusetts		Yes	
Michigan		Yes	
Minnesota		Yes	
Mississippi			√
Missouri		Yes	
Montana			√
Nebraska	Yes		
Nevada			√
New Hampshire			√
New Jersey			√
New Mexico			√
New York			√
North Carolina			√
Ohio			√
Oklahoma	Yes		
Oregon	Yes		
Pennsylvania			√
Rhode Island			√
South Carolina			√
South Dakota	Yes		
Tennessee	Yes		
Texas		Yes	
Utah	Yes		
Vermont	Yes		
Virginia			√
Washington	Yes		
West Virginia	Yes		
Wisconsin		Yes	
Wyoming			√

Note: from "State Policies to Promote Collaboration: A Survey of Professional Development and P-12 Content Standards," by J. Yff, 1996, pp.8-9.

Vertical Collaboration

After establishing relevance, or determining what knowledge is of most worth, a locale must design a strategy for implementation of its newly-designed curriculum. In examining the literature, many projects can be found which serve as models. They vary as much as their numbers in subject, grade, and anticipated outcomes, but vertical collaboration, or planning together with teachers across grade levels, surfaces as requisite for success. In his overview in the ASCD journal's issue devoted to Core Knowledge curriculum, Editor Ron Brandt acknowledges:

> ...[T]he very best curriculum can become quality instruction only if those who teach...have the time and resources to prepare carefully and do the necessary follow-up (Brandt, 1993, "Overview").

So the question remains: What is the best way to collaborate? Horizontal collaboration (among teachers of the same grade level) has been evidenced for years in clustering, intra-school planning, and cross-curricular teaching. But with the advent of content standards, vertical collaboration dominates the recent literature as a necessary aspect of implementing a vertically-aligned sequence of instruction.

The Maine Common Core project displayed this type of planning in its Wells-Ogunquit Community School district. After the elements of instruction were chosen, each teacher received a copy of the document and was subsequently allowed four days of staff development. Teachers and support staff were

divided into "cross-grade, cross-disciplinary groups of 15" (Guidamas and Walters, 1993, p. 33). Teachers held in-depth discussions and engaged in problem solving activities in addressing anticipated instructional implementation difficulties. Teacher apprehension was high because of the landmark nature of the program; teachers wanted to see a similar structure in place elsewhere. The superintendent then set an implementation time frame of three years, as consensus for adoption grew.

Perhaps the most efficiently aligned and well-collaborated curricular effort observable on a national scale would be in the area of mathematics (Wiske and Levison, 1993, p. 8). Reforms began in the early eighties, as standardized tests showed a severe decline in the mathematical proficiencies across grade levels. In 1983, The University of Chicago School Mathematics Project began, which has significantly impacted schools with reforms. The project delineated content standards and pioneered the use of calculators in the classroom. One of the problems with vertical curriculum development seems to be funding of programs such as this. If one were to adequately assess the merits of a

grade-to-grade sequence, one would have to look at a group of kindergartners who were initiated and follow them throughout their next thirteen years. However, most educational grants are funded for three to five years. One reason for the success of the Chicago program has been extended funding which has allowed researchers to gauge multi-year effects. The project director, Zalman Usiskin, explains the importance of vertical collaboration:

> A teacher...can change a single year's experience, but for multi-year change, administrators, guidance counselors, parents, and school boards

> need to be involved ...change cannot occur solely top-down or bottom-up. It must occur both ways at once (Usiskin, 1993, p. 18).

Usiskin zeros in on what the research indicates is the key to successful implementation of a standards-based curriculum-- collaboration.

In a study of problems associated with the implementation of the National Council of Teachers of Mathematics (NCTM) standards, the biggest obstacles to change were perceived to be inadequate professional development and lack of time to integrate content across grade levels (Wiske and Levinson, 1993). In Pittsburgh, conversely, where the same standards have been successfully implemented, teachers of varying grade levels banished an inadequate textbook and "[c]collaborative colleagues then developed alternative materials" (p. 9).

Science represents another content area where standards have been implemented. Benchmarks for Science Literacy outlines competencies for grades 2, 5, 8, and 12 (discussed in Ahlgren and Rutherford, 1993, p. 19). As part of a radical curriculum project which began in the early eighties, rather than dictate instruction, Project 2061 has tried to give local districts tools with which to design their own curricula. The project has designed a series of blocks or models which it calls "Benchmarks" with the goal of implementation to "maintain coherence" among the blocks (p. 19). Project 2061 uses the benchmarks in conjunction with "cross-grade, cross-subject groups, instead of in the traditional isolation by grade level and subject matter" (p. 19). Teachers are further noted as the central component to the reforms' success. Teachers take the benchmarks and design their own K-12 models which require "...time, workspace, computers,

reference materials, travel funds, and academic collaborators" to accomplish the task (p. 20).

Other educational arenas have also utilized vertical collaborative efforts in implementing curriculum. The Wisconsin Action Research Project identified as its three major initiatives: "increasing collaboration, promoting research, and establishing networks among professional organizations" (Tompkins, 1995, p. 3). The special education project brought together teams of general and special education teachers with the goal of easing transitions between early childhood and kindergarten and on to elementary and secondary. "The initiative focused on increasing collaboration among professionals...across K-12 settings and institutions of higher education (p. 4)." As a result, every team contained a teacher from each of these levels, including a university faculty member. As a work in progress, the teams felt the first year (devoted to curriculum design) was successful. Priorities for years two and three included research and teacher training.

Another program which utilizes vertical collaboration and alignment, On the Way to Success in Reading and Writing with Early Prevention of School Failure, targets at-risk students in Peotone, Illinois. The four to nine-year-olds are placed in a program in which aligned curricula and professional development are key components to achieving program goals. The 1992-1996 longitudinal study was designed to determine, among other things, if student achievement was increased when

> ...curricular, staff development activities, teaching practices, parent training, plus initial and ongoing assessment are aligned, integrated, and mutually supportive (holistic approach)...(Betz,1995, pp.4-5).

After one year, the at-risk students showed significant difference (when compared to previous at-risk populations), in pre-test/post-test scores. The results were replicated at fourteen sites. Perhaps one of the most specific studies on vertical curriculum alignment was implemented in South Texas in 1993-1994. Three districts (high minority, high poverty) came together to test the benefits of tightening curriculum alignment as it pertained to the Texas Assessment of Academic Skills, or the TAAS test. In doing so, teachers examined all of their lessons and rated them according to their direct relationship to the TAAS test. The teachers were asked to label their lessons as Absolute (met all criteria presented as total TAAS alignment-quality); High Partial (met most of the criteria); Low Partial (somewhat related to the TAAS test material); and Fallout, or the "fluff" lessons of which no tie to the test could be made. Teachers were then asked not to use any Low Partial or Fallout lessons during the 1993-1994 school year. The results were staggering. For example, District One went from 16% to 60% pass rate on the third grade scores, from 6.6% to 39% pass rate on the writing scores, and from 25% to 50% pass rate on the reading scores. All other districts likewise showed dramatic gains. Even proponents of the study admit that "...much of the available research would predict that this type of growth is not possible in such a district until a myriad of parental, societal, and student problems" could be corrected, yet the scores speak for themselves. Buried in the report, however, might be the information that justifies the program's success: "A year-long training program for administrators and teachers was implemented in these districts" (Aguilera, 1996, pp.1-3).

The need for vertical collaboration in developing new methods of vertical curriculum alignment is seen in other districts in the development of cross-curricular content

standards. With the call for standards comes many questions as to their efficacy in promoting learning and leading to higher productivity. Or, will new standards just create "new inequities" (CPRE Policy Briefs, 1993)? Now, educators may have more questions than answers. One commonality seems to exist, however, in the concluding words of the researchers. After creating and aligning a curriculum through the use of staff guidelines, Core Knowledge consortiums, or learning standards, the most important step for ensuring its success is "... acknowledging the value of sustained, collaborative, professional development" (Hawkes, Kimmelman, Kroeze, 1997, p.33).

Methods of Procedure

In order to determine if the systematic alignment of curriculum in conjunction with teacher collaboration increases student achievement, forty-seven South Texas school districts were surveyed using a Likert scale questionnaire. The survey was created in part by using the following framework from Robert J. Marzano's "Eight Questions You Should Ask Before Implementing Standards-Based Education at the Local Level":

- Where will we get our standards?
- Who will set the standards?
- What types of standards should we include?
- In what format will the standards be written?
- At what levels will benchmarks be written?
- How should benchmarks and standards be assessed?
- How will student progress be reported?
- What will we hold students accountable for?

The research team then synthesized the information gathered from the literature review and formulated definitions for curriculum alignment and teacher collaboration. **Curriculum Alignment** is defined as "Conscious congruence of the three educational elements of curriculum, instruction, and assessment. **Vertical Collaboration** is defined as "Planning and implementing the curriculum sequence from one grade level to the next in grades Pre-Kindergarten to grade twelve."

Of the forty-seven surveys sent, twenty-seven were returned. Responses from twenty-three surveys were used because four surveys were incomplete. In order to

conduct a comparative study of districts with varying student populations and study of student growth on standardized tests in districts with varying degrees of curriculum alignment and teacher collaboration, student scores on the Exit-Level TAAS were used. The scores from 1994 to 1997 of the responding districts were analyzed according to growth in relation to degree of collaboration and alignment using SPSS. Texas Education Agency's *Academic Excellence Indicator System* report was used to obtain the TAAS scores for each district. After collection of the data, the 1994 scores of Grade 10 students were subtracted from the 1997 scores of Grade 10 students. *Pearson's Product-Moment Correlation Coefficient* from SPSS was employed based on the perceived level of collaboration in the districts to overall growth in student test scores and to the total percentage of Grade 10 students passing the TAAS.

Research Question

Does vertical alignment of the curriculum in conjunction with teacher collaboration enhance student performance on standardized tests?

Selection

A random sampling of school districts in South Texas Regions 1 and 2 with varying student population sizes was conducted. Surveys (appendix A) were mailed with a self-addressed, stamped envelope to the office of the superintendent of each district. School districts that returned the survey were selected for the study. Vertical collaboration and alignment were defined on the survey and respondents rated the statements about the degree of vertical alignment and collaboration on a Likert scale from "strongly disagree" (1) to "strongly agree" (7).

The Exit-Level TAAS was selected as the standardized test to determine the level of student achievement since all Grade 10 students in Texas must pass this assessment in order to receive their high school diplomas. Statistical data for this assessment is also readily available from the *Academic Excellence Indicator System Report* published yearly by the Texas Education Agency.

DATA ANALYSIS

Presentation of data

The data used for the analysis of this study was student population, degree of vertical alignment/collaboration with 1 being the lowest degree and 7 the highest degree, growth on the Texas Assessment of Academic Skills (TAAS) from Spring 1994 to Spring 1997, and the percent of students that passed all tests on the Grade 10 TAAS test.

Of the forty-seven surveys mailed to various school districts, only twenty-seven were returned. Of the twenty-seven surveys returned, only twenty-three were used because some surveys were incomplete. The student enrollments were retrieved from the Texas School Directory 1997-1998. The growth on the TAAS test was determined by calculating the difference between the 1997 Grade 10 percent passing all tests and the 1994 Grade 10 percent passing all tests. The Grade 10 percent passing all tests for 1994 and 1997 was retrieved from the Academic Excellence Indicator System(AEIS) report provided on the Internet through the Texas Education Agency's homepage.

Table 1

School	Student Population	Level of Vertical alignment/ collaboration	Growth on TAAS	% Passing all tests on the Grade 10 TAAS
Webb	402	7	7.7	63.3
Pettus	464	5	19.3	65.5
Riviera	633	5	4.9	54.9
Skidmore-Tynan	753	5	13	73.9
Banquete	863	4	29.6	85.7
Odem-Edroy	1271	6	20.6	70.6
Taft	1516	6	26.8	66.3

Table 1

School	Student Population	Level of Vertical alignment/ collaboration	Growth on TAAS	% Passing all tests on the Grade 10 TAAS
Valley View	1808	7	43.2	73.7
Rio Hondo	2072	4	32.9	66.7
Point Isabel	2229	5	10.8	54.9
La Feria	2640	7	25.5	73
Gregory Portland	4229	7	26.8	83.9
Sharyland	4408	6	11	73
Calallen	4741	5	13.1	85.9
Flour Bluff	5288	6	10.7	76.7
Mission	11948	7	24.1	68.3
La Joya	14185	6	6.5	41.6
PSJA	20377	6	14.1	47.8
McAllen	21704	7	16.8	59.3
Laredo	22987	4	24	49.7
Brownsville	40521	5	26.6	60.7
Corpus Christi	41606	7	12.7	61
Ysletta	47433	5	20	56.7

Data Analysis

The total sample of school districts participating in this study was 23 districts. The students populations for these districts ranged from 402 students to 47,433 students. The mean of the populations was 11,047 and the standard deviation was 14,598. The skew coefficient was 1.517 therefore, the shape of the distribution is skewed and cannot be considered normal.

Although the possible responses for the degree of vertical alignment/collaboration varied from 1 - disagree to 7-agree, the lowest degree of vertical alignment/collaboration was 4 and the highest was 7. The mean of the responses was 5.7 and the standard deviation was 1.0. The skew coefficient was -0.190 therefore, the shape of the distribution is slightly skewed but can be considered normal.

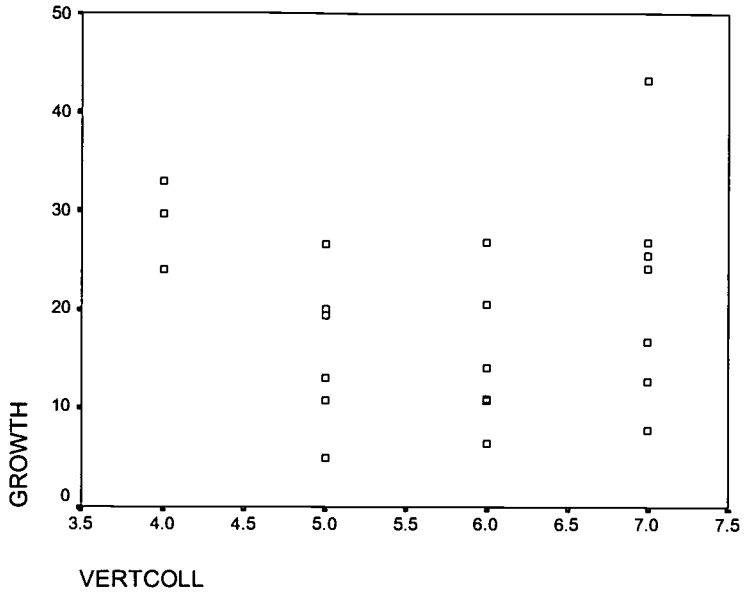
The mean of the growth on the Grade 10 percent passing all tests on the TAAS from 1994 to 1997 was 19.2 and the standard deviation was 9.5. The skew coefficient was .601 therefore, the shape of the distribution is slightly skewed but can be considered normal.

The mean of the percent passing all tests on the TAAS Grade 10 in 1997 was 65.8 and the standard deviation was 11.9. The skew coefficient was -0.084. The data can be considered normal.

Using the SPSS program, the correlation of degree of vertical alignment/collaboration to growth of percent passing all tests from 1994-1997 on the Grade 10 TAAS test was calculated using Pearson's product-moment correlation coefficient. The -0.041 shows a very small negative correlation between vertical alignment/collaboration and growth. In essence, there is was no correlation between growth and vertical alignment/collaboration.

Table 2

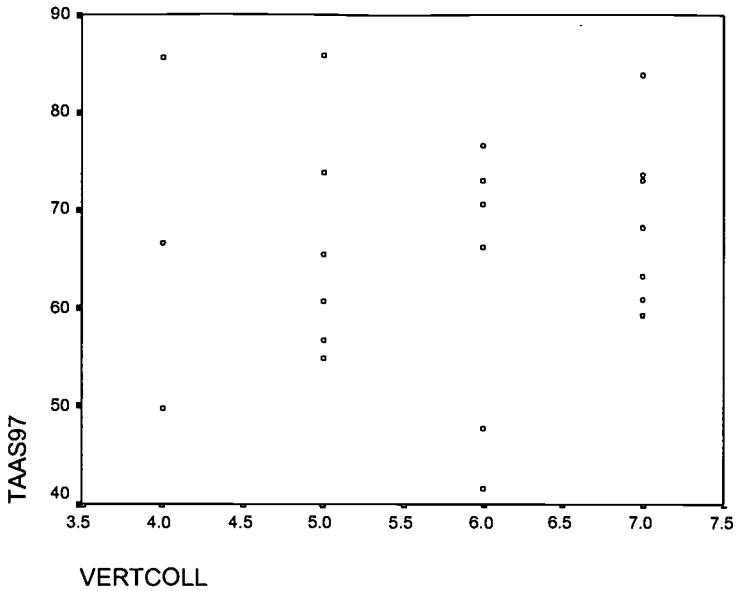
Correlations			
Pearson Correlation	Growth	1.000	-.041
	Vertcoll	-.041	1.000
Sig. (2-tailed)	Growth	.	.854
	Vertcoll	.854	.
N	Growth	23	23
	Vertcoll	23	23



Using the SPSS program, the correlation of vertical alignment/collaboration to percent passing all tests on the 1997 Grade 10 TAAS test was calculated using Pearson's product-moment correlation coefficient. The +0.075 shows a very small positive correlation between vertical alignment/collaboration and the percent of Grade 10 students passing all tests in 1997. In essence, there is was no correlation between growth and performance on the 1997 Grade 10 TAAS test.

Table 3

Correlations			
Pearson Correlation	Vertcoll	1.000	.075
	TAAS97	.075	1.000
Sig. (2-tailed)	Vertcoll	.	.735
	TAAS97	.735	.
N	Vertcoll	23	23
	TAAS97	23	23



Summary

The significance of this data is in the growth of student achievement on the Grade 10 TAAS test for all districts from 1994 to 1997 regardless of the degree of vertical alignment/collaboration. There was no significant correlation between the degree of vertical alignment/collaboration and growth on the TAAS test from 1994 to 1997. In addition, there was not significant correlation between the degree of vertical alignment/collaboration and percent of students passing all tests on the Grade 10 TAAS.

Summary and Conclusions

The data used for the analysis of this study was student population, degree of vertical alignment and collaboration, with 1 being the lowest degree and 7 the highest degree, growth on the TAAS from Spring 1994 to Spring 1997, and the percent of students who passed all tests on the Grade 10 Exit-Level TAAS.

Of the forty-seven surveys mailed to various South Texas school districts, twenty-three were used because some of the surveys were incomplete. The student enrollments were retrieved from the *Texas School Directory 1997-1998*. The growth on the TAAS was determined by calculating the difference between the 1997 Grade 10 percent of students passing and the 1994 Grade 10 percent of students passing all tests. The scores were retrieved from the *Academic Excellence Indicator System* (AEIS) report provided on the *Internet* through the Texas Education Agency's homepage.

The data suggests that there is a need for qualitative research regarding vertical alignment and collaboration. It is very possible that there was no correlation between alignment and collaboration and scores or growth because the districts that responded to the survey did not share a uniform definition of vertical alignment and collaboration.

Discussion

Since all districts returned surveys indicating that there was some vertical collaboration and alignment between and among teachers, the growth and scores of the students may be attributed to the degree of alignment and collaboration that exist. However, there was only a very minor correlation between student success and growth on the Exit-Level TAAS according to the Pearson's moment-correlation test. Therefore, according to the data received via the survey, there was not a significant correlation

between vertical alignment and collaboration and student growth and success on the TAAS.

Since there were no surveys with answers in the NO range, a focused selection for study of districts with little growth and success on the TAAS would result in more definitive data on the effects of vertical curriculum alignment and teacher collaboration.

Although the results showed no correlation between vertical alignment and collaboration and growth of scores on the TAAS, there were no districts that answered that they did not align/collaborate to some degree. Therefore, there may a correlation between vertical alignment, collaboration, growth and scores since all the responding districts did show some growth regardless of the degree of vertical alignment and collaboration.

The survey in this study was mailed to the office of the superintendent of each district and completed by someone in the central administration building. If teachers, campus administrators, and/or curriculum coordinators had been asked to complete the survey, the results may have been different for each group.

Qualitative research in the form of interviews may more clearly define vertical alignment and collaboration. As a result, the data collected may be more focused due to the clarity of the terms. Qualitative research, as defined in the earlier stages of the study, would have added insight as to the degree of implementation of the vertically aligned curriculum and accompanying collaboration theoretically in place in the responding districts. Without asking teachers if the TEKS, academic performance standards, and/or other methods of vertical alignment are actually used in everyday classroom lessons, any quantitative research may prove meaningless. Similarly, teachers and department chairs

would be most qualified to assess the level of vertical collaboration in the form of in-services and teacher training, and they would be able to rate its effectiveness as a tool in implementing specific curricula.

Recommendations for Further Study

The time element within the present project did not allow any qualitative study suggested by the topic "Vertical Alignment." Several possible studies should be considered in future research. A critical look at the actual extent of implementation of vertical alignment components (curriculum/collaboration) would be immensely valuable. Often, what may be reported may not coincide with actual practice. Another study might determine the expectation level (perceived/positive/negative) of administrators, teachers, parents, and students concerning the success of vertical alignment. An essential part of vertical alignment is communication and training. A study to determine the need for in-service/staff development on various elements of vertical alignment (performance standards, collaboration, communication, community involvement, evaluation of the curriculum...) may prove most helpful.

Whatever study is done concerning vertical alignment, one must examine the extent of collaboration as an integral part of vertical alignment among teachers of different grade levels. It may even be feasible to use collaboration (specifically defined and determined) as an indicator of horizontal or vertical alignment success.

Further quantitative research should broaden the current study to include more districts both locally (within Texas) and nationally, while also carefully determining which districts incorporate vertical alignment and which do not. The same study should be repeated in three years to provide a longer time of full implementation of vertical

alignment components. Within the same context, examine the feasibility of using other indicators of success in addition to, or instead of, TAAS scores. A study which may prove most informative would be to determine the correlation among student success (test scores/other), collaboration, and vertical alignment as separate variables. Again, the importance of specific definitions and manner of determination of each component can not be over-emphasized.

One problem with short-term studies lies with the lack of continuity in studying students and applied methodology over a period of merely a few years. The key to the success of a study of vertical alignment and collaboration may be a longitudinal study which follows students from kindergarten through grade twelve. A special grant would be needed for such research, as federal grants rarely extend for more than three to five years.

A possibility emerged in the course of the study that the superintendents may have actually desired an answer to a question quite different from the one they asked. They may have been more interested in grade-level assessment such as academic performance standards as currently used in CCISD. The question may have been more accurately phrased, "Is there a correlation between districts which use grade-level assessment procedures as a means of academic promotion and student achievement?" The study would probably have to be conducted nationally rather than regionally, as Texas has few examples of the system.

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