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ABSTRACT

Data from the Texas Assessment of Academic Skills (TAAS) were used to explore how learning environments within bilingual classes where students perform very well on the Spanish version of the TAAS are shaped by forces surrounding the TAAS and how this shaping process affects teachers. Four elementary schools were selected based on the high performance of their students on the Spanish TAAS reading tests. Instructional practices, the professional development of the teachers, and instructional materials were studied. Data suggest that the pressures surrounding the high-stakes of the TAAS set off a wave of "actions that impacted the classroom practices of the teachers. These pressures led to the scripting of curricular goals and objectives based largely on intensive reviews of the TAAS data, which in turn led to the official endorsement of TAAS-friendly instructional strategies to help meet these curricular goals and objectives. Professional development opportunities were organized in accord with TAAS objectives, and monitoring processes were established to see that TAAS-derived goals and objectives were being targeted in the classroom. (Contains 29 references.) (SLD)



Teacher Agency and the TAAS:

Maintaining the ability to "act otherwise."

by

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Introduction

Every spring, Texas students in third through tenth grades labor for two full school days, penciling in the bubbles for multiple-choice and true-false questions and writing short essays on the Texas Assessment of Academic Skills (TAAS). Policy-makers in Texas use the resulting TAAS data to determine whether or not schools are succeeding, and they rely on TAAS results to mete out consequences for everyone in schools: students, teachers, administrators, and school board members. Because the TAAS has come to serve as a systematic means by which the state of Texas can presumably reward success and punish failure, an enormous amount of pressure surrounds the TAAS. Many policy-makers in Texas believe that the TAAS is the engine that drives the efforts to reform education and that without such a test these reform efforts would be derailed by low expectations, teacher resistance, or simple institutional inertia. However, opponents of high-stakes testing question this logic by casting doubt on whether or not such tests actually lead to improved instructional practices, or even to higher levels of student achievement. Whereas this paper addresses questions concerning whether the TAAS does indeed lead to higher quality instruction, the main focus of this paper will be on those who deliver instruction in the classroom: teachers.

In this paper I put forth an alternative analysis of the data gathered as part of a study of four "high performing" K-3 bilingual reading programs in the state of Texas (Guerrero & Sloan, 1999). At the time of the study, each of the four schools held "Exemplary" ratings by the state of Texas based on their students' performance on the TAAS. The objective of the original "exemplary-schools" study was to identify and describe characteristics which might reasonably explain the high levels of success on the Spanish version of the TAAS. The main objective of



the current analysis, however, is to describe how the learning environments within the bilingual classes in these highest-performing Spanish reading programs were shaped by forces surrounding the TAAS and describe how this shaping process worked to impact teachers. Prior to initiating this alternative analysis of the data, however, a short discussion on high-stakes testing is required to contextualize this re-presentation of the data.

High-stakes Testing¹

High-stakes testing programs, like the one in Texas, are becoming standard among states. Currently, forty-eight states have testing systems in place, and most rely on the test results to allot for everything from teacher bonuses to badges of honor—or shame (Hoff, 1999). Although the scores produced by high-stakes testing have proven useful to policy makers in shifting limited educational resources to areas of most need, the overuse of test results has been criticized. In particular, critics have decried the use of test scores as the sole source to make decisions about individual students, schools, or districts.

The International Reading Association (IRA, 1999) has said that the scores yielded by a high-stakes test, like other single sources of information, are less than exact indication of a student's true ability. High-stakes tests rely heavily upon the assumption that every child learns in the same way at the same time. Moreover, these test scores are simply an estimate of the student's understanding or mastery of a particular subject at a particular time. In fact, even one of largest testing companies in the United States, CTB/McGraw-Hill, acknowledges that districts and states misuse the tests they market when the tests are utilized as the only indicator of a student's success or failure (Bosser, 2000). This comment comes in the wake of recent CTB test scoring errors, which led to 3,500 New York City students being sent to summer school, and in another instance, lead to a school closure. Acknowledging CTB's error, the company's vice-



president countered with the remark that "The test was not designed to make those decisions" (cited in Bosser, 2000).

In contrast to high-stakes testing supporters, critics worry that such tests adversely impact the quality of instruction in the classroom. These critics warn that such testing distorts and narrows instruction, encourages teachers to focus solely on what is tested, obscures richer ways of judging children and schools, and further divorces classroom instruction from children's lived experiences (Haladyna, Nolen, & Haas, 1991; IRA, 1999; McGill-Franzen & Allington, 1993; McNeil and Valenzuela, 2000; Paris, 1998; Smith, 1991; Wideen, O'Shea, Pye, & Ivany, 1997). Critics point out that these distorted or narrowed forms of instruction, based solely upon a desire to raise test scores, result in only short-term increases in scores. According to Robert Linn (cited in Hoff, 2000), the chairman of the National Research Council's Board on Testing and Assessment, the leveling off and eventual decline of test scores occur because policy-makers are wont to address more costly, systemic issues such as reduced class sizes or improving teacher quality. Finally, the pressures surrounding these high-stakes tests have led to certain unethical practices which inflate test scores (Haas, Haladyna, & Nolen, 1989), and even to test-tampering by both teachers and administrators in order to boost a school's ratings (Johnston, 1999).

Although most critics of high-stakes testing have focused on the adverse impact upon students, others have argued that the implementation of such testing also adversely impacts teachers. Because high-stakes testing "has become a means of controlling instruction as opposed to a way of gathering information to help students become better readers" (IRA, 1999, p. 257), teachers are denied from drawing on what Connelly and Clandinin (1988) call teachers' personal practical knowledge. Apple (1988) and others (e.g., Apple and Jungck, 1990; Giroux, 1987; McLaren, 1994) argue that such external bureaucratic controls that monitor classroom instruction



and teacher behavior work to <u>de-skill</u> teachers. This de-skilling process leads to teachers being viewed merely as technicians who are expected to and rewarded for delivering only instruction that directly targets that which is tested.

Although many have theorized about the ways in which high-stakes testing work to deskill teachers, there are surprisingly few case-study descriptions in the educational literature of the ways these tests work to de-skill teachers. Present in educational literature, however, are empirical accounts of how rigid educational structures, such as "teacher-proof" curricula or bureaucratically-derived standards, work to de-skill teachers (see McLaren, 1993). Thus, detailed accounts of how high-stakes testing impact teachers are sorely needed. In order to make sense of how bilingual classroom teachers at four "exemplary" schools were impacted by the TAAS, I will utilize a theoretical framework constructed around the concept of teacher agency. I will use this framework as a heuristic device to make sense of how these teachers were impacted by the machinery which drives the TAAS.

Theoretical Framework: Teacher Agency

Agency can be defined as the ability to carry forth an action or a mode of action.

According to the sociologist Anthony Giddens (1979), human agency is contingent upon the possibility that a person "could have acted otherwise" (p. 54). Giddens does not see any set of actions as simply a series of discrete acts that can be neatly isolated and then re-strung together in order to define or explain a person's agency. Rather, Giddens theorizes a concept of agency that views any act within a continuous flow of conduct that is firmly situated in a time-space relationship inherent in any social interaction.

Giddens acknowledges the bounded character of human agency, but rejects traditional structural or functional analyses that lead to what he calls the "derogation of the lay actor." In



other words, Giddens rejects seeing actors as mere "cultural dopes or bearers of a mode of production" with no worthwhile understanding of their surroundings or the circumstances of their action. Any social theory which holds such a deficit view of actors, in Giddens's words, lays "open for the supposition that [actors'] views can be disregarded in any practical programmes that might be inaugurated" (p. 71-72).

Giddens, as mentioned previously, theorizes a concept of agency that views any act or series of acts within a continuous flow of conduct that is firmly situated in a time and a place or context. Thus, if one is to make any claim concerning the agency of the teachers at the four schools based on any observed action or any statement made by the teachers involved in the original study, each action or statement must be situated within an extremely complex confluence of socio-economic, racial, linguistic, cultural, and historical forces. In the context of this study, the following issues may have also served to shape the actions and perceptions of the teachers, administrators, and parents at the four schools: (1) The English language learners in the K-3 bilingual programs that were studied were almost exclusively of Hispanic origin and constituted the majority of the schools' "economically disadvantaged" population. (2) The students who populated the bilingual programs at the four schools represented a population of students who have historically experienced lower levels of academic achievement. (3) All of the teachers in the bilingual classrooms, except for one, were native speakers of Spanish, and most of them had experiences themselves as second language learners.

Thus, the task I have set in place for myself involves a re-reading of the data gathered for a study designed to describe the learning environments of "exemplary" K-3 Spanish bilingual programs. The aim of this re-presentation of the data is to provide an analysis concerning the agency of the bilingual classroom teachers at the four schools. As mentioned previously, agency



is contingent upon the possibility that the agent [in this case the teachers] "could have acted otherwise." My analysis of the data gathered at these four schools is focused on one question: Given the pressures surrounding the TAAS and the practices that seemed directly linked to the TAAS, could these teachers have acted otherwise?

The "Exemplary" School study

During the 1998-99 academic school year, a team of two researchers set out to study and describe the learning environments of four primary schools that had demonstrated promise in teaching English language learners to read in Spanish in the early grades (Guerrero and Sloan, 1999). The four elementary schools were selected for the study based on their students' results on the TAAS in Spanish. The aim of the original study was to identify and describe the characteristics found across the four sites that might reasonably explain the schools' "exemplary" performance on the Spanish TAAS.

Classroom observations, interviews with teachers and administrators and in some cases parents, and document analysis revealed that the four schools shared six characteristics that could reasonably explain their students' performance on the TAAS in Spanish for the third and fourth graders. These six characteristics included: (1) an explicit support for Spanish literacy and biliteracy; (2) high academic expectations for all students; (3) a curricular alignment between the Spanish and English reading programs; (4) a shared understanding of the Spanish reading program and the ability of teachers and administrators to clearly articulate this understanding; (5), an explicit targeting of "skills" involved in reading beginning in kindergarten; and (6) an overt emphasis on explicitly targeting the TAAS at all grade levels, even in those grades (i.e., kindergarten through second grade) that were not administered the TAAS.



Although all six of these characteristics were common to each of the schools, the most salient of these six shared characteristics, and the one most germane to this re-presentation of the data, was the explicit targeting of the TAAS. At each of the four schools in the study, the instructional practices employed in the K-3 classrooms, the professional development opportunities afforded teachers, and the purchasing of didactic materials were all significantly shaped by the structure and the content of the TAAS, an analysis of the previous year's TAAS data, and the perceived pressures that surround the TAAS.

The Four Schools and the Impact of the TAAS

At each of the four schools involved in the original study, teachers and administrators openly recognized the pressures they felt concerning the TAAS. District and school-level administrators and teachers stated that they indeed felt pressure to make sure that students did well on the TAAS. As a result of these pressures, a significant amount of energy, time, and resources was devoted to preparing teachers and students for the yearly TAAS administration.

Both administrators and teachers at the four schools conducted extensive reviews of the TAAS data. The process of dis-aggregating the previous year's TAAS data played an instrumental role in the formation of yearly curricular goals that were established for the schools. At each of the schools the achievement of these curricular goals was monitored through periodic administrative oversights, reviews of lesson plans, and/or reviews of data from periodically-administered practice-TAAS. The reported pressures surrounding the TAAS, the process of establishing instructional goals through a close reading of the previous year's TAAS data, and the monitoring processes put in place to make sure these instructional goals were being met resulted in forms of classroom instruction which seemed tailored for the test.



When principals were asked to comment on the importance of the TAAS at their schools, one principal stated,

If you want to keep your job in Texas you have to be prepared to do well [on the TAAS]. At least that's the feeling that we get... [the TAAS] is always there. Not in the front, not in the back, [the TAAS] is always there. But I've gotten my teachers to the point where they know what the TAAS is. If you want to teach in the state of Texas, they know that the TAAS is something that we have to live with.

When principals were asked if they or their staff felt pressure concerning the TAAS, another principal responded, "A lot of pressure, yes. All year long and...it's expected." Several principals reported feeling pressure to out-perform the other elementary schools within their district.

When teachers were asked to explain the importance of the TAAS, one teacher stated, "We emphasize [the TAAS] quite a bit. We know we have to do well on it." Another teacher felt that stressing the importance of the TAAS lets the students know what they are responsible for learning and what teachers are responsible for teaching.

Several teachers reported that they communicated directly to their students the importance of the TAAS. One teacher explained, "I stress the importance of the TAAS test to the students. I tell them that I take tests too. And I even tell them about the 'Exit TAAS' [they need to pass] for a high school diploma." At the same school, the importance of the TAAS was communicated to students through a threat to withhold an end-of-the-year reward meant for all students. One teacher reported that students at her grade level were told that they would not be allowed to attend a fieldtrip to Sea World if they didn't pass the TAAS. However, the teacher then explained that this was used to get students to take the frequent practice-TAAS



administrations seriously and that, in the end, even those students who did not pass the TAAS would be taken on the school fieldtrip.

The importance of the TAAS was also communicated to the entire school community through messages placed on posters, bulletin boards, banners, and even the marquee in front of one of the schools. Messages such as "Scoring High for TAAS!" "We're Ready For TAAS!" and "BEAT the TAAS!" were found prominently displayed in and around several of the schools. Further, teachers asked students to create posters with positive messages concerning the TAAS. Student-created posters with pro-TAAS messages lined the third and fourth grade hallways in the weeks leading up the spring administration of the TAAS. Messages on these posters included: "TAAS! Reach for 100!" "TAAS! Just Do It!" "Never Give Up and You'll Do Good on TAAS" and "I Wich [sic] that I Pass TAAS."

The importance that teachers and administrators placed on the TAAS and the pressures that they felt that surrounded the TAAS led to the establishment of instructional goals at the district- and school-levels based almost exclusively on their reading of the previous year's TAAS data. This analysis of the TAAS data also determined the types of professional development teachers were provided, as well as the types of materials that were ordered to help achieve the yearly curricular goals.

An analysis of the previous year's TAAS data, to a large extent, determined the districts' and schools' instructional objectives for the year. For example, one school was required by its district to construct a "Campus Action Plan" (CAP) that included specific yearly instructional goals and objectives for teachers that were directly linked to the students' performance on the previous year's TAAS. The CAP also included various examples of lessons photo copied from commercially-available teaching materials which directly targeted the TAAS skills identified in



the goals and objectives. Although the schools in this district were allowed to decide how the CAP's goals and objectives should be met instructionally, according to teachers and administrators at the school, the district monitored the progress towards meeting these goals and objectives throughout the year. When asked how the CAP process works at her school, one teacher explained,

[the principal and teachers from the school] meet for an August in-service. We always have at least a day where we'll start to identify our low areas [on the TAAS], our high areas, and they we'll break up into groups...We identify our areas and then we'll look and see why we think we had those [low] areas and then we'll come back as a whole campus and everybody will present what their findings were and then we'll summarize it and usually we'll have some sort of document put together that our principal will have the office type out...We'll do that in August and...then we'll review it again in January at an in-service.

A teacher at the same school added, "We target TAAS goals that have come out the lowest and starting through kindergarten, we come up with strategies that we can use to address those TAAS objectives."

At another of the schools, the principal reported that she spent much of her summer studying the previous year's TAAS data. In August, at the first teacher in-service day, this principal grouped teachers in inter-grade and intra-grade committees, presented them with the previous year's TAAS data, and asked them to identify the TAAS objectives they were meeting and objectives they were not meeting. Specific TAAS objectives were identified, check-point dates were established to mark progress toward achieving the objectives, specific persons responsible for helping to meet the objectives were identified, instructional resources and



materials were listed, and then the objectives were targeted instructionally throughout the year. When asked how the TAAS data influenced the formation of her yearly curricular goals and objectives, one teacher responded, "A lot is based on TAAS outcomes. A lot is addressing TAAS...It's very TAAS-oriented."

The importance that is placed on the TAAS led to comprehensive systems of monitoring both student progress toward meeting the test-based instructional objectives and teaching practices to ensure that these objectives were being instructionally targeted. In order to both prepare students for the test and ensure that they pass, each of the four schools administered some sort of practice-TAAS instrument. The frequency of the administration of these practice tests and the forms they took varied from school to school. However, at each of the schools, the results of the practice-TAAS assessments were monitored closely by administrators. Moreover, these assessments had a strong influence on the types of instruction students received in the classroom, leading up to the administration of the actual TAAS.

At one school, students took a TAAS-like assessment every six weeks, and at another school, third-grade teachers administered mini-practice tests that contained TAAS-like questions every two weeks. According to one teacher, the assessments help "make sure we have gotten all the TAAS objectives." At another of the schools, third-grade students completed TAAS-like reading comprehension passages daily during what their teachers designated as a "sustained silent reading" (SSR) time. At one of the schools, second-grade students took what an administrator called a "baby" TAAS at the same time the third-, fourth-, and fifth-grade students took the actual test. This baby TAAS was formatted in the same way as the regular test for the upper grades, but was shorter in overall length. According to the principal, this was to done to help identify students who might be at risk of not passing the third-grade TAAS, but it was also



designed to help teach test-taking behaviors and prepare the students for the rigors of an all-day test. Test-taking behaviors that were targeted included how to eliminate a <u>wrong</u> answer; mnemonic devices, such as memorized acronyms, to help find the correct answer; and behaviors that helped students, according to one teacher, "get into the mind" of the test-makers.

Administrators at each of the schools also used the administrations of the practice-TAAS instruments, which mirrored the format and content of the actual TAAS, to monitor whether or not objectives were being effectively targeted through classroom instruction. In addition to these periodic assessments, administrators also were able to determine whether or not teachers were directly targeting objectives through reviews of lesson plans and the monitoring of mandatory grade-level planning meetings.

At one school, teachers in kindergarten through fifth grade were asked to organize monthly lesson-plans detailing the specific TAAS objectives, and when and how they were being targeted through instruction. Completed monthly, this "TAAS Plan" also included the materials used in the lesson, the specific drill, the practice exercises to reinforce the objective, and a listing of pre-evaluation activities that were carried out to make sure the objectives were indeed met. According to the principal, the TAAS Plan helped the teachers remain "very focused" on the TAAS throughout the year. One teacher who wrote this monthly lesson plan reported, "We teachers have become experts in the TAAS." Another teacher in this same school stated that teachers have become so familiar with the TAAS objectives that she finds it easy to create instructional approaches that teach specific objectives. Another teacher at the same school claimed that his knowledge of the TAAS has allowed him to be able to "guide [the children] through the mental processes of what [the test writers] are expecting."



Administrators at the four schools also used grade-level meetings and planning times to monitor whether or not teachers were targeting the TAAS objectives. Teachers at the same grade level were required to use these common times to work and plan together in order to come up with instructional strategies to help students master the TAAS objectives, especially those TAAS objectives that the previous year's TAAS data had revealed as a weakness. At one school, an administrator periodically went to these grade-level planning times in order to present new instructional strategies. Most often, these instructional strategies were designed to target the TAAS objectives that students missed on the previous year's TAAS or on the practice-TAAS instruments.

The monitoring of teacher practice in order to assure that TAAS objectives were being instructionally targeted was of major import to many of the administrators at the four schools. This was evident in a comment made by a district-level administrator when she stated:

... [our students] are doing very, very well [on the TAAS]...We feel that we must be doing something right and again, we have certain non-negotiable strategies and procedures, but if you were to go to every one of our elementary schools, they will look very different. But the same very basic procedures are in place or are expected to be in place. ...I'm not going to say to you that we have 100% compliance in every classroom...But that's what we're striving for.

That the structure of the TAAS, and the content of the test itself, influenced the types of instruction in the K-3 bilingual classrooms was evident in statements made by the teachers. For example, when teachers were asked to describe the strongest part of their Spanish reading program, one teacher responded, "The strongest component [of our reading instruction] is that TAAS is heavily stressed. I believe that modeling [the TAAS] has really made a difference in



my classroom...Also, a lot of test-taking skills have been implemented in my classroom."

Another teacher, responding to the same question, stated, "I think it's that we try to target the [TAAS] objectives from the objectives in the CAP. We try to integrate them into our daily lessons and we target these objectives with the kids all day long." Another teacher commented, "The TAAS test (to me) is the best indicator of how a student is doing and we base our curriculum on that...If [the students] are passing all of my TAAS-like tests by April, I know they are reading at grade level."

As mentioned above, the pressures surrounding the TAAS and the intensive reviews of the previous year's TAAS data significantly impacted the types of didactic materials, that the schools ordered. In all of the schools, the teachers utilized commercially-produced materials which contained questions which mirrored those on the TAAS. These materials included such titles as "Step Up to TAAS," "TAAS Target," or in Spanish, "Operativos." Third grade teachers at one of the schools extensively used a commercially-available TAAS-preparation book in their bilingual classrooms. The locally-produced Spanish booklet contains TAAS-like comprehension passages and questions. When a third-grade teacher at this school was asked how often she utilized the "TAAS Target" book, she stated, "We usually do one story a day, very soon after the beginning of the year...And [in the spring] we're up to two [passages a day]." Teachers at this school utilize this TAAS-preparation book to teach test-taking skills or strategies in order to help students determine the correct answer. Classroom observations revealed that this teacher utilized the TAAS-preparation booklet for just over an hour during her daily sustained silent reading (SSR) time. She later explained, "We have up to 45 minutes of SSR daily. Two TAAS stories are read and worked on individually. Then I model on the overhead how to find the



answers, and we correct the stories together. I give out candy to those that get a 100 on the TAAS stories for that day."

Acknowledging that many teachers in his district are over-utilizing TAAS-type materials in the classroom in order to prepare students for the TAAS, one district-level administrator stated, "One of the things that I have been encouraging and trying to push now for about last three to four years is a move away from TAAS worksheets. I really don't like those TAAS worksheets, so we're trying to teach and do more staff development on how to teach the TAAS skills within the use of literature....But I think some teachers are still not understanding that. And they think that what you have to do to teach the TAAS is you have to give them practice worksheets."

Three of four of the schools also extensively utilized a computer program called "Accelerated Reader" that contains TAAS-like comprehension questions. Although nobody in any of the school acknowledged the link between the format of the mini-assessments found in the Accelerated Reader computer program and on the TAAS, there was an obvious similarity in format. The computer program contains a database of comprehension questions from numerous common trade books, both in English and in Spanish, found in any elementary library. After students read a book that is part of the Accelerated Reader database, they can independently log onto the computer program, find the questions from the story, and answer a short list of multiple-choice comprehension questions. The computer will then compile the results and share them with the students. The results are automatically stored on a database that can be accessed by teachers and administrators. Teachers periodically check the student database to chart students' progress, and if they have made sufficient progress, students are rewarded with prizes. For the most part, teachers and administrators see the program as an incentive program that involves



very little teacher effort to manage. However, there is an unmistakable similarity between how the computer program is formatted and how the TAAS questions are formatted.

In addition to influencing the formation of curricular goals and objectives and the types of instructional materials that are purchased, the reading of the previous year's TAAS data also determines, to a large extent, the professional development opportunities that teachers receive, which, in turn, significantly shape classroom practice. For example, one of the schools hired a math consultant who had developed an entire pre-packaged program based on the explicit targeting of the TAAS objectives. After being presented with this professional development, this new math program was expected to be put into use by the teachers in the classroom.

According to the principal, "The new math program put in place goes six weeks by six weeks by six weeks by six weeks and [the program] tells teachers what to do on a daily basis to meet TAAS objectives."

Conversations with administrators and teachers about the influence of the TAAS upon classroom instruction revealed that there were some concerns. According to one administrator, "I think most of [the teachers] think [the TAAS] is fair, but they feel that there is too much importance on it and that there are other things that they could be doing with their students that are more important." Another administrator voiced concerns he had heard from teachers about an over-emphasis on the frequent administrations of practice-TAAS instruments: "Well, you've got some teachers who are a little intimidated because the tests are given throughout the year. Well, there's a fine line between focusing strategies and 'test-taking strategies.' At least what we try to do here is teach strategies and then you worry about the test-taking skills and they should all come together."

A teacher, voicing a concern with the emphasis placed on TAAS, stated, "With such a strong focus on TAAS [at our school], the enjoyment of reading is shelved at times." Another



teacher lamented that she felt that content in the curriculum was being slighted in favor of the teaching test-taking skills. In her words, "As a whole, we over-emphasize the TAAS test-taking skills in third grade."

Discussion

In his theory of structuration, Giddens outlines what he calls the duality of structure. The duality in structure Giddens describes both enables and constrains the agent. The likelihood that the agent is enabled into an action or constrained from an action is constituted by the configuration of the structural elements —rule and resources—within a given context. The structural elements common to the four schools enabled teachers to engage in practices whose worth to both teachers and administrators were measured in relation to an ability to positively affect the TAAS scores. Conversely, the structural elements were configured in such a way that teachers were constrained from engaging in more open-ended, dynamic, and personalized teaching practices.

The perceived pressures surrounding the TAAS, the intensive reviews of the previous year's TAAS data, and the monitoring of both teachers and students worked to establish the rules and resources that teachers utilized to formulate their teaching practices. Drawing on the rules and resources available to them, teachers engaged predominately in teaching practices that (re)produced features of TAAS or targeted those features specifically. Giddens would refer to these actions as merely strategic conduct. But the question remains: Given the configuration of the structural elements at these four schools, how would one characterize the instructional practices that predominated?

Although the students at each of the four schools were achieving at "Exemplary" levels based on their performance on the TAAS, the instructional methods observed in the classroom



appeared to be mostly non-exceptional in nature. The teachers were skilled, articulate about their practice, and dedicated to their work, but it would be specious to say that their schools' exemplary status was due to the delivery of exemplary instructional practices. Given the location of the structural elements at the four schools, "efficient" might be a more apt way of characterizing the observed instructional practices. To say that the teaching styles observed were "traditional" (vs. "progressive), "skills-oriented" (vs. "process-oriented"), or "abstract" (vs. "concrete"), however, would lead this discussion toward an arbitrary bifurcation that would help little to accurately characterize instructional practices observed and discussed at the four schools. Lave and Wenger (1998) state that attempts at characterizing teaching and learning in such a way only furthers a "folk epistemology of dichotomies." The categories which would result from such a discussion, Lave and Wenger contend, "do not reside in the world as distinct forms of knowledge, nor do they reflect some putative hierarchy of forms of knowledge among [learners]" (p. 104).

Learning Situated: Legitimate Peripheral Participation

A more productive discussion about the learning environments found in the four schools might be generated through the use of Lave and Wenger's "analytical perspective," legitimate peripheral participation. Lave and Wenger's notion of legitimate peripheral participation offers a theoretical lens through which the learning environments in these four schools might be more clearly analyzed and critiqued. Lave and Wenger view learning as a situated activity, the meaning of which is constituted "through the process of becoming a full participant in a sociocultural practice" (p. 29). Thus, Lave and Wenger's legitimate peripheral participation places the explanatory burden for issues such as "understanding" and "levels" of



abstraction or conceptualization not on one type of learning as opposed to another, but on

the <u>cultural practice</u> in which the learning is taking place, on issues of <u>access</u>, and on the <u>transparency</u> of the cultural environment with respect to the meaning of what is being learned. (p. 104-5).

By utilizing Lave and Wenger's notions of cultural practice, access, and transparency, I will try to offer an analysis and critique of the instructional settings observed and discussed at the four schools.

Although Lave and Wenger would say that learning is an aspect of <u>all</u> activity, the quality of this learning may be judged by its ability to generate social practices in the lived-in world. Thus, learning is constituted in close relation to the ability of the learner to perform the practice in the social world. The instructional settings observed at these four schools allowed very little room for students to engage in Spanish literacy practices that resembled social practices in their lived-in settings, nor was there an overt attempt to help the students make connections between the two settings. Whereas the students demonstrated their adeptness at managing the learning situations, as evidenced by their TAAS scores, it is questionable whether or not the literacy skills being targeted, or the means by which they were being targeted in the classroom, worked to increase or hone the students' literacy repertoire in their respective lived-in worlds.

For Lave and Wenger, learning is facilitated not through instructional methods, but by offering the learner access to a full range of activities and opportunities to apply newly acquired skills and improvise with them. The configuration of the structural elements at the four schools worked to further constrain the teachers from creating learning environments in which their students had access to a full range of literacy-building activities, and hence, to possibilities for establishing the meaning and power of acquiring Spanish literacy. The teaching in these schools generated narrow prescriptions for "proper" literacy practices, preempting access to social



practices that would have been a further source of learning. Lave and Wenger's distinction between a <u>learning curriculum</u> and a <u>teaching curriculum</u> helps to further clarify issues of access within the classroom context at these four schools.

A classroom guided by a learning curriculum entails students' being offered "situated opportunities for the improvisational development of new practice" (Lave & Wenger, 1998, p. 97). Further, a learning curriculum involves the creation of contexts that are meaningfully connected to everyday practices of the learner. The teaching curriculum, on the other hand, is constructed for the purpose of delivering instruction efficiently, not ensuring learning. The teaching curriculum pre-configures—and thereby limits—access to resources for learning, as well as to the meaning of what is to be learned. As a result of the pre-configurations inherent in a teaching curriculum, students are denied access to contributing to the resources for learning or to the meaning-making process involving what is to be learned. The instructional settings in the four schools were more redolent of a teaching curriculum than of a learning curriculum.

Lave and Wenger's (1998) notion of transparency offers a third means to analyze and critique the learning environments at the four schools. Although Lave and Wenger focus their discussion of transparency on learners' uses of technology or learners' uses of artifacts, they suggest that a broader interpretation of the term facilitates a clearer understanding of the larger cultural environment and its relation to the concept or skill being learned. Transparency of a learning activity, then, is dependent upon the teacher's ability to make visible the socio-cultural meaning of that which is to be learned. The configuration of the structural elements at these four schools created an enclosed situation wherein the only visible portal looking out toward the outside world was obscured by the TAAS. The learning environments seemed closed off to such



an extent that the only way to make sense of much of what transpired in the learning environments was in relation to the TAAS.

Teacher Agency and Reflective Practice

In order to bolster an analysis of teacher agency utilizing Giddens's axiom, "could have acted otherwise," a clear explication of the types of practices from which teachers will be presented. As a result of the arrangement of the structural elements at these four schools, teachers at these schools were constrained from formulating the purposes and ends of their teaching practices; they were constrained from examining their own values and assumptions in relation to their practice; and they were constrained from playing substantive leadership roles in curriculum development and school reforms. Moreover, the pressures surrounding the TAAS and the processes enacted directly related to the TAAS precluded teachers from engaging in classroom practices that allowed them, or their students, to bring forth and draw upon the richness of the local contexts, as well as their interests, strengths, and experiences. In short, the teachers were precluded from engaging in what Schön (1983) and Zeichner and Liston (1996) refer to as reflective practice.

Conceptions of reflective practice in teaching, first and foremost, reject the teacher-astechnician image of practice. Schön saw the teacher-as-technician image of practice as arising from a technical-rational view of knowledge that bifurcates theory and practice. Zeichner and Liston cogently warn that this teacher-as-technician image of practice allows teachers and administrators to locate the sources of educational problems entirely in students rather than in the context of the school, or the classroom. It is precisely this technical-rational view of theory and practice that fuels the educational reform-through-high-stakes testing movement. Not surprisingly then, this bifurcated view of theory and practice, as well as the teacher-as-technician



image of practice, was evidenced both through discussions with teachers and administrators and through classroom observations. The teacher-as-technician image of practice prevalent in the four schools promulgated the notion that teachers were mere conduits for implementing "best practices," which in these schools were those practices which most positively affected TAAS scores.

Knowledge and the TAAS

Social theorists who propose a broader view of human agency emphasize the relational interdependency agent and world, activity, cognition, learning, and knowing (see Bourdieu, 1977; Giddens, 1979). Such theorists also emphasize the socially negotiated, open-ended character of knowledge. The meaning of any form of knowledge, then, can only be understood if viewed in historical, situated terms. Understanding this, it would be foolish to posit that the composition of the structural elements at these four schools prevented the students from acquiring knowledge. On the contrary, it is easy for an observer to heap praise upon the teachers and administrators for helping their students to acquire that knowledge required to do well on the TAAS. The efficiency with which these schools were able to prepare their students for the TAAS is viewed as commendable. Administrators at the district and school levels drew upon the structural elements—rules and resources—available to them and were able to mobilize the entire school community to train the collective vision upon the TAAS. The question remains, however: What is the relative worth, utility, or value of knowledge that is constituted exclusively by its relation to a standardized test?

At the four schools there was an overt privileging of what Habermas (1968) would call technical knowledge, or that knowledge which avails itself to scientific predictability and measurement. Giroux (1979) calls any such knowledge that is constituted solely by its ability to



organize, classify, master, and manipulate "data," within the narrow confines of traditional subject-area "content" productive knowledge. The privileging of technical or productive knowledge, to the exclusion of almost all other forms of knowledge, might be easily attributed to the hypothetico-deductive logic embedded in TAAS; however, such a logic has a long history in the models of curriculum planning found in almost all schools today. Such rigid models of curriculum planning can be traced back to Tyler (1949).

The myopic focus on technical knowledge at the four schools also served to further reify the teacher-as-technician image of practice. Positioned as technicians, teachers tended to talk of their students as if they were "cognitive" entities only. Seeing students in such a narrow fashion, in the words of Lave and Wenger (1998), "promotes a non-personal view of knowledge, skills, tasks, activities, and learning" (p. 52). Although the administrators and teachers had a facility with a "student's-first" discourse when they discussed their schools' "successes," such discourse rang hollow given the instructional settings common to the four schools.

TAAS and the Delivery of "Codes of Power"

As mentioned previously, Giddens theorizes a concept of agency that views any act, or series of acts within a continuous flow of conduct that is firmly situated in a context. Thus, to make any claim concerning the agency of the teachers at the four schools, each observed action or statement must be situated within an extremely complex confluence of socio-economic, racial, linguistic, cultural, and historical forces. There can be no doubt that these forces also worked to shape the configuration of the structural elements at these four schools. The structural elements in place at the four schools most certainly impacted the actions of those within the school



contexts; however, a broader view of agency requires that these schools be viewed as part of a larger context that is itself socially configured.

The English language learners in the K-3 bilingual programs at the four schools in this study were almost exclusively of Hispanic origin and constituted the majority of the schools' "economically disadvantaged" population. These students represented a population of students who have historically been neglected by the schooling structures in Texas and as a result have historically experienced lower levels academic achievement. With the exception of one teacher and one principal, all of the bilingual classroom teachers and administrators were people of color, and almost all were of Hispanic or Latino origin. Thus, Spanish was the language of "heart and home" for most of those in the four schools. Many of the teachers and administrators had themselves experienced being a "second language learner" in educational settings within United States; however, they most certainly weren't ascribed such a neutral term. It is more likely that these teachers and administrators labored under the label of "culturally deprived" as a result of their coming from households where Spanish was the first language. These factors must be considered in the analysis of the teachers' actions or of educational settings in general.

Several of the teachers at the four schools spoke openly about their desire to help their minority students "make it," and about communicating directly to their students the importance of the TAAS in relation to "making it." As one teacher explained, "I stress the importance of the TAAS test to the students. I tell them that I take tests too. And I even tell them about the 'Exit TAAS' [they need to pass] for a high school diploma." Another teacher reported that he was extremely open with his students about helping them "get into the mind" of the test-makers.

After reflecting upon these and other similar statements, I came to the tentative conclusion that for many of the teachers, the TAAS represented a familiar barrier to



"mainstream" success. Thus, the teachers seemed extremely committed to helping their students be "successful" in the United States by explicitly exposing their student to what Delpit (1995) referred to as the "codes of power." These codes or rules are embedded in all social practices, but are particularly evident in "linguistic forms, communicative strategies, and presentation of self" (Delpit, 1988, p. 25). Like Delpit, the teachers and administrators at these schools saw success as dependent upon the acquisition of these codes or rules that allow one to participate in the "culture of power." In the context of these four schools, the culture of power refers to White, Anglo-American culture.

The teachers and administrators of color had themselves successfully acquired the necessary codes in order to participate in the culture of power. In fact, so successful were the teachers and administrators were so successful at acquiring and utilizing these codes to participate in the culture of power, that they were able to attain professional status within their communities. Thus, it should not be surprising that they would see the TAAS in relation to these codes of power and place a value upon doing what they could to transmit these codes to their students. In both subtle and overt ways, the teachers and administrators gave the impression that the students in their classroom weren't, as Delpit put it, "other people's children." Rather, it was readily apparent that the students they referred to were many ways their own.

Conclusion

Any adequate account of human agency must, according to Giddens, "situate action in time and space as a continuous flow of conduct" (p. 2). I have attempted to re-present the above data in a way that demonstrates a "continuous flow of conduct" by teachers and administrators in these four schools as it concerns the TAAS. Organized in this manner, the data suggest that the



way in which the structural elements were configured at these four schools as a result of TAAS did indeed preclude the teachers from acting otherwise.

The pressures that surround the TAAS set in motion a wave of actions, which ultimately impacted the classroom practices of the teachers. These pressures led to the scripting of curricular goals and objectives based largely on intensive reviews of the TAAS data, which in turn led to the official endorsement of TAAS-friendly instructional strategies to help meet these curricular goals and objectives, and to the purchasing of materials which mirrored the TAAS both in structure and in content. In order to further assure that the TAAS-derived curricular goals and objectives were met, TAAS-oriented professional development opportunities were organized. Finally, comprehensive, top-down monitoring processes were established in order assure that the TAAS-derived curricular goals and objectives were being effectively targeted in the classroom.

In the four educational settings investigated for this study, there seemed to exist a deductive logic involved in how to ensure high student achievement on TAAS. This deductive logic, in the end, led to a systematic teaching of the test, which in turn fostered the creation of learning contexts closed off to more inductive forms of thought produced through processes of reflection upon the teachers' personal practical knowledge. These tightly framed contexts are contrasted by what Maxine Greene (1988) calls open contexts in educational settings. According to Greene, such open contexts are places where persons "attend to one another with interest, regard, and care," and where there is a "place for the appearance of freedom, the achievement of freedom by people in search of themselves" (p. xi). Although both teachers and administrators voiced "students-first" attitudes to justify their many efforts to see to it that each child passed the TAAS, there remains the question of whether these many efforts weren't motivated by more self



preservational interests, such as job security. Such interests seem only to be accentuated by how the accountability system doles out punishments and rewards.

In the present rush toward high-stakes testing schemes as a way to reform education, there has been little discussion about how these tests represent a threat to more dynamic, openended, and personalized forms of teaching practice. For example, much still needs to be known about the ways in which teachers might be resisting the structures put in place that force a teaching of the test, or in the words of Holland et al. (1998), the many ways in which people improvise in the face of seemingly rigid structures put in place as a result of the TAAS. Whereas this paper makes only a modest contribution to understanding how TAAS is impacting teachers and their classroom practice, more in-depth, ethnographic-type investigations are required to more fully understand how TAAS is impacting teachers and their classroom practice. Only through such long-term investigations will important information concerning the TAAS's impact upon teachers be revealed.



Footnotes



¹ In this paper, "high-stakes" and "high-accountability" will be used interchangeably.

²Legitimate peripheral participation as an analytical perspective was formulated from the authors' theorizing about situated cognition, apprenticeship, and communities of practice.

References

Apple, M., & Beyer, L. (1988). The curriculum: Problems, politics, and possibilities. Albany: State University of New York Press.

Apple, M., & Jungck, S. (1988). "You don't have to be a teacher to teach this unit": Teaching, technology, and gender in the classroom. <u>American Educational</u>

Research Journal, 27(2), 227-51.

Bosser, U. (2000). States face limited choices in assessment market. <u>Education</u>
Week on the Web. Available online:

http://www.edweek.com/ew/ewstory.cfm?slug=26test.h19

Bourdieu, P. (1977). <u>Outline of theory of practice</u>. Cambridge: Cambridge University Press.

Connelly, F. M., & Clandinin, D. J. (1988). <u>Teachers as curriculum planners:</u>
Narratives of experience. New York: Teachers College Press.

Delpit, L. (1995). Other people's children. New York: New Press.

Giddens, A. (1979). <u>Central problems in social theory: Action, structure and contradiction in social analysis</u>. Los Angeles, CA: University of California Press.

Giroux, H. (1979). Over-coming behavioral and humanistic objectives. <u>The Education Forum</u>, 43(4), 409-19.

Greene, M. (1988). The dialectic of freedom. New York: Teachers College Press.

Haas, N. S., Haladyna, T. M, & Nolen, S. B. (1989). Standardized testing in Arizona: Interviews and written comments from teachers and administrators. (Tech. Rep. No. 89-3). Phoenix, AZ: Arizona State University West Campus.



Habermas, J. (1968). <u>Knowledge and human interests</u>. Boston, MA: Beacon Press.

Haladyna, T. M., Nolen, S. B., & Haas, N. S. (1991). Raising standardized achievement test scores and the origins of test score pollution. <u>Educational Researcher</u>, 20(5), 2-7.

Hoff, D. J. (1999). Made to measure. Education Week on the Web. Available online: http://www.edweek.com/ew/1999/40assess.h18

Hoff, D. J. (2000). Testing's ups and downs predictable: Research shows cyclical pattern. Education Week, 19(20), 1, 11.

Holland, D., Lachicotte, W., Jr., Skinner, D., & Cain, C. (1998). <u>Identity and agency in cultural worlds</u>. Cambridge, MA: Harvard University Press.

International Reading Association. (1995). Reading assessment in practice.

Newark, DE: Author.

International Reading Association. (1999). High-stakes assessments in reading.

Journal of the International Reading Association, May, 257-263.

Johnston, R. C. (1999). Texas presses districts in alleged test-tampering cases.

<u>Education Week on the Web</u>. Available online:

http://www.edweek.com/ew/1999/27texas.h18

Linn, R. L. (1993). Educational assessment: Expanded expectations and challenges. Educational, Evaluation and Policy Analysis, 15(1), 1-16.

McLaren, P. (1993). <u>Schooling as ritual performance: Towards a political economy of educational symbols and gestures</u>. New York: Routledge.



(.)

McLaren, P. (1994). <u>Life in schools: An introduction to critical pedagogy in the foundations of education</u>. New York: Longman.

McGill-Franzen, A., & Allington, R. L.(1993). Flunk'em or get them classified: The contamination of primary grade accountability data. <u>Educational Researcher</u>, 22(1), 19-22, 34.

McNeil, L., & Valenzuela, A. (2000). The harmful impact of the TAAS system of testing in Texas: Beneath the accountability rhetoric.

Paris, S. G. (1998). Why learner-centered assessment is better than high-stakes testing. In N. M. Lambert & B. L. McCombs (Eds.), <u>How students learn: Reforming schools through learner-centered education</u> (pp. 189-209). Washington, DC: American Psychological Association.

Schön, D. (1983). The reflective practitioner: How professionals think in action.

New York: Basic Books.

Smith, M. L. (1991). Put to the test: The effects of external testing on teachers. Educational Researcher, 20(5), 8-11.

Tyler, R. W. (1949). <u>Basic principles of curriculum and instruction</u>. Chicago: University of Chicago Press.

Wideen, M. F., O'Shea, T., Pye, I., & Ivany, G. (1997). High-stakes testing and the teaching of science. <u>Canadian Journal of Education</u>, 22(4), 428-444.

Zeichner, K. M., & Liston, D. P. (1996). Reflective teaching: An introduction. Mahwah, NJ: Lawrence Erlbaum Associates.





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