

January 23, 2013

For the attention of the Federal District Court of Tucson:

I write to express concerns with two aspects of the draft unitary plan for the Tucson Unified School District (TUSD) that was filed with the court in November. I write as a private citizen and as one member of the TUSD Governing Board but not as a representative of the Board as a whole.

It seems appropriate to emphasize that, on the whole, I think that the draft plan is much better, in many ways, than the post-unitary plan that the Board sent to the court in 2009.

First, I am concerned that the student assignment portion of the proposed plan reimposes racial preferences through a weighted lottery (paragraph II.G.2.a.), something that TUSD has not seen in years. This adds a layer of complexity and possible perceptions of unequal treatment and, according to my understanding, may not be legally sustainable over the long term.

Second, while always supporting the inclusion of more Mexican American history, literature, and perspective into the standard high school core sequences in social studies and English, I also continue to support the previous Board's objection to the mandate for culturally relevant courses (paragraph V.C.6.a.ii), what I shall call the "curriculum mandate":

By the beginning of the 2013-14 school year, the District shall develop and implement culturally relevant courses of instruction designed to reflect the history, experiences, and culture of African American and Latino communities. Core courses of instruction shall be developed in social studies and literature and shall be offered at all feasible grade levels in all high schools across the District, subject to the District's minimum enrollment guidelines.

Why the curriculum mandate should not be imposed by the court.

My reasons can be summarized in seven points, which are elaborated below.

- (1) The much-cited achievement evidence concerning TUSD's former Mexican American Studies (MAS) program is weak.
- (2) The mandate may not represent the best investment of desegregation funds, from the standpoint of raising student achievement.
- (3) The mandate tends to promote rather than to reduce segregation.
- (4) Problematic curriculum could reappear, despite the district's stated intentions.
- (5) Such a curriculum mandate is unusual in desegregation cases and driven by no previous action in this case.
- (6) The mandate could force the district into conflict with a provision in state law.
- (7) The proposed mandate is essentially an attempt to recruit the court into taking sides in a political dispute.

(1) The achievement data are weak.

School districts make many decisions and investments that are not clearly justified by any academic study. Indeed, it is the general nature of educational data and research that unambiguous recommendations based on sound statistical technique are hard to find. Academic studies are thus only one of many considerations when making educational policy.

The statistical analysis of achievement data has, however, become prominent in the public debate over MAS. Many persons have asked why the Board suspended a program that produced such strong achievement results, but the statistical evidence that the MAS classes caused higher achievement is, in fact, weak. The data are suggestive (to use a word that economists like) but I have seen no analysis that provides serious support for the achievement claim.

A basic limitation is that the data set is relatively small. No other school district appears to have operated a similar curriculum program for any significant period of time, so the data come only from TUSD. Within TUSD, the MAS program served at most a few hundred students a year, and persons studying the question have, as far as I know, considered only recent graduation cohorts and fewer than 1,600 MAS students altogether.

Two relatively serious attempts to study the data are a memo (March 11, 2011), from TUSD's Accountability and Research Department and an unpublished paper by Cabrera et al. (June 20, 2012). Documents such as the Cambium audit add little to the debate, because that study's authors make no claim to be statisticians and as far as I know did no independent statistical analysis.

The staff memo (which does not claim to offer a serious statistical study) considers two achievement measures:

- (a) the AIMS passing rates of high school juniors who failed the AIMS test during their sophomore year, comparing students who took a MAS course in the junior year to juniors who did not;
- (b) the graduation rates of high school seniors, comparing students who took a MAS course in the senior year to seniors who did not.

The memo reports that students taking a MAS course in the junior year passed the AIMS reading test at a rate 5% to 16% higher than other students, depending on the year. The writing test, but not the math test, shows similar differences. Also, seniors taking a MAS course during their senior year graduated at a rate 5% to 11% higher than seniors who did not.

The Cabrera et al. paper appears to report much stronger effects on AIMS results and graduation rates. (Their estimations also suggest that taking MAS courses makes students *less* likely to attend college but they argue that this result is not meaningful.)

It is possible that MAS courses causally increase either AIMS scores or graduation rates, but neither of these two documents demonstrate this. Here is a partial list of the issues.

Reasons that causal effects cannot be inferred from the 3/11/11 staff memo.

(A) *No control for class size.*

On average, MAS classes had lower enrollments than the standard core courses for which they substituted. The higher achievement for MAS students could be entirely due to class size rather than to the curriculum.

For example, in 2008-2010, combining Rincon and Tucson High Schools, the average class size in junior level “traditional” history was 28.4 while the average class size in MAS history was 21.5. I do not know whether that gap (calculated by staff) is representative, but any credible analysis of the causal effects of MAS classes should account for class size.

(B) *No control for variables that might raise student achievement and also be correlated with taking MAS courses.*

For example, students who failed the 10th-grade AIMS test by a relatively small margin might be more likely to pass it later and also more likely to take MAS courses.

A second example: About half of MAS enrollments occurred at Tucson High School; therefore, if some other characteristic of that school improved graduation rates, then higher graduation rates could be correlated with MAS enrollment district-wide even if taking MAS courses had no causal effect.

Many similar examples can be constructed. The point is that inferring causality from MAS classes is unjustified when other plausible explanatory variables are excluded from the analysis.

(C) *Highly motivated students may have self-selected into MAS courses.*

Among the students who failed the 10th grade AIMS test, the ones who chose to enroll (or were recruited to enroll) in MAS courses may have had relatively high academic motivation. In the absence of any other proxy for this higher motivation, the MAS variable would pick it up and taking MAS classes would thus (falsely) appear to be causing higher achievement.

(D) *No tests of statistical significance.*

None of TUSD’s internal analyses attempt to determine whether the observed differences in achievement are statistically significant. Especially in small samples, such differences can reflect random variation rather than causation.

Reasons that causal effects cannot be inferred from the 6/20/12 Cabrera et al. paper.

All of the concerns (A)-(D) apply also to the Cabrera et al. study, except that the latter study does include tests for statistical significance. The Cabrera et al. study does, however, suffer from the following *additional* shortcomings.

(E) *Mis-specification of the logistic equation.*

The regression that underlies the entire analysis appears to be fundamentally mis-specified: the dependent variable should be the logarithm of the odds ratio: $\ln[P(Y)/(1-P(Y))]$ rather than $\ln(P(Y))/[1-P(Y)]$ as reported in the paper (p.3).

The reported specification makes no sense. It might be a typographical error, except that the same error appears twice and should have been obvious to anyone familiar with the logistic model. If the authors actually estimated the equation that they say they estimated, then the results are meaningless.

(F) *The non-standard estimation of ratios raises several issues.*

The paper estimates binary treatment effects (taking a MAS course being the binary treatment), a standard statistical problem that arises in many fields. The average treatment effect estimators appropriate for such a problem are well understood. But Cabrera et al. do something different and unusual, by estimating and reporting the odds *ratios*. This strategy could be viable but it raises several issues. First, the distribution of the standard errors of the odds ratio, and thus the p-values, are not obvious, and Cabrera et al. beg the question by saying only that they use “conventionally accepted standards.” All of their tests of statistical significance depend upon this.

Estimating the odds ratios, instead of differences in the averages, also makes the estimation less robust to specification errors. Because mis-specification is almost inevitable in this and similar models, their non-standard approach increases the likelihood of badly flawed estimates.

(G) *A serious selection problem.*

Unlike the staff memo, the paper’s sample appears to include the cohort of 10th graders who fail the AIMS test in 10th grade and then drop out after 10th grade. This could greatly exaggerate the estimated achievement effects.

To consider an extreme example, suppose that half of the students who fail 10th grade AIMS drop out after 10th grade; of the remainder who matriculate to 11th grade, suppose that half take MAS courses and half fail to graduate but that those events are uncorrelated. Then, of the original cohort who failed AIMS in 10th grade, half of those who take MAS courses will graduate but only 1/6 of the rest will graduate (because many of them did not even advance to 11th grade). Then students in the sample who take MAS courses will graduate at thrice the rate of those who do not, even though there is no causal relationship!

Students who drop out after 11th grade cause a similar but probably less dramatic error in the estimated effect on graduation: they can obviously neither graduate nor take a senior-level MAS course, regardless of whether any causal relationship exists between those outcomes.

This problem alone could explain why Cabrera et al. find much larger effects than seem plausible given the data in the TUSD staff memo.

(H) Omitted variables.

Unlike the staff study, the Cabrera paper uses a regression to account for many (mainly demographic) control variables, but the regression omits many plausible causal factors. Class size, 10th grade AIMS results, and the school attended are all omitted, and any of these omissions (as explained in points (A) and (B)) could generate a spurious relationship between taking MAS classes and student achievement.

The authors deliberately excluded the dummy variables for Asian Americans and Native Americans from the sample; they write that in some cases they also excluded African Americans and persons with high incomes. They explain that these dummy variables exhibited too little variation to be included (e.g. there were not enough Native Americans in the sample), but that is generally not a good reason to exclude variables that are presumed to have explanatory power; and that is certainly the case here because the premise underlying culturally relevant pedagogy is that ethnicity affects how students respond to different pedagogical approaches!

In short, the paper selectively and rather mysteriously omits explanatory variables that should have been included. This could exaggerate the estimates of achievement due to MAS. For example, if Native American students rarely took MAS courses and also exhibited lower achievement as measured by the paper, then one would expect the dummy variable for Native American identification to have an estimated negative effect on achievement; but excluding that variable could spuriously push that effect into the MAS variable, driving up the estimated effect of taking MAS courses.

(I) The control group is artificially small.

Because most students chose not to take MAS classes, even at the schools where they were offered, fewer than 10% of the students in the sample took those classes. The authors excluded from the regression analysis most of the remaining 90% of students who did not take MAS courses, to make the control group the same size as the treatment group. There is no statistical justification for throwing away all of this information about the control group.

(J) Flaws in the interpretation of the results.

At various points the authors torture the interpretation of the results in ways that favor finding positive achievement results from MAS courses. For example, they argue that the omission of students who passed AIMS in the first attempt biases downward the estimate of the effect of taking a MAS course, but there is no apparent a priori reason to assume that students who pass AIMS tests would have experienced greater achievement gains from taking MAS courses (instead of the standard core courses) than would students who failed those tests. Given the MAS program's stated goal of reaching alienated students, one might even expect the opposite relationship.

(K) *Two of the authors were already well-known advocates for MAS.*

The paper has apparently not been peer-reviewed. This is especially important because two of the three authors were strong public advocates for the benefits of MAS courses before this study was even commissioned. Indeed, it is surprising that the Special Master asked program advocates, rather than disinterested researchers, to prepare this study, especially when there would be no peer review. This raises the possibility that the Special Master sought to drive a particular conclusion rather than to seek an objective analysis.

(2) The mandate may not represent the best investment of desegregation funds, from the standpoint of raising student achievement.

The proposed plan is very long and has many separable parts. The curriculum mandate, which is hardly mentioned outside of the establishing paragraph quoted above, is clearly separable from the rest of the plan.

Given this separability, it is reasonable to ask whether the curriculum mandate, which would be removed from the Board's discretion once ordered by the court, offers high return to the investment of TUSD's desegregation funds. Persons who pay taxes to TUSD will surely and reasonably ask that question.

The mandate to offer dual sets of core courses, subject to "the District's minimum enrollment guidelines," will be expensive. I am not sure whether TUSD even has minimum enrollment guidelines for core courses, but dual tracks will surely require many more sections than we would otherwise offer and more than we offered under the old MAS program (which was not in every school).

The cost of the discontinued MAS program was more than a million dollars per year, including expenditures outside of the official MAS budget. About half of the high school students enrolled in MAS courses were at Tucson High School. Even if their higher mean performance, at Tucson High specifically, was entirely attributable to taking MAS courses (a bold assumption, as discussed above), then the average annual impact of the MAS program at Tucson High during 2008-2010 was 12 more students graduating per year and 1½ more students passing the 11th grade AIMS reading test per year.

[Here are details of the calculation for the AIMS reading test: At Tucson High School, in 2008-2010 combined, there were 443 juniors who did not pass the AIMS Reading test during their sophomore year. Of the 399 students who did not take MAS courses during the junior year, 149 passed in their junior year, a rate of 37%. Of the 44 students who did take MAS courses, 21 passed, a rate of 48%. If the MAS students had passed at the 37% rate of the other students, only 16.3 would have passed. (It is interesting that, even though a majority of the students at THS are Latino, only 10% of the 443 juniors chose to take the MAS courses.) If taking the MAS course is the cause of the difference, then taking those courses caused about 4.7 more THS students to pass AIMS in their junior year, over the three-year period, or about 1½ students per year.]

Of course, many students who had already passed the AIMS test or were already likely to graduate took MAS courses and accrued whatever advantages those classes conferred, but this question remains: does the MAS or any similar program represent the most efficient use of desegregation funds, from the standpoint of raising student achievement? And is the court well-positioned to make that judgment and to bind future Boards to it?

(3) The mandate tends to promote rather than to reduce segregation.

Students of all ethnicities took TUSD's MAS classes, but the publicly stated mission of the curriculum program was to help Latino students and Latino students dominated the enrollment.

It makes sense to teach high school courses about African American, Mexican American, and Native American literature, or about regional history or the history of the civil rights movement. The subject material of such classes might disproportionately attract students from particular ethnicities, but self-segregation of that kind seems inevitable. It would be unreasonable to expect students from all backgrounds to be exactly equally attracted to different kinds of courses.

That is different from mandating, in a *desegregation* plan, courses that incorporate pedagogy deliberately directed toward specific ethnic groups.

The proposed mandate to offer parallel sets of core courses seems especially strange, because it is important for *all* students to learn about the history and viewpoint of other ethnic groups, as can occur in a *single* and *unified* sequence of core courses in history and English. To instead promote self-segregation in the academic core, by tailoring different versions of history to different ethnic groups, seems to run exactly counter to the traditional goals of desegregation.

(4) Problematic curriculum could reappear, despite the district's stated intentions.

Though the curriculum mandate makes no explicit reference to MAS, both supporters and opponents of the discontinued MAS program have interpreted the curriculum mandate to herald the return of something similar to that program.

Given that the newly elected Board is considerably more supportive of MAS than was the previous Board, and that TUSD's current director of multicultural curriculum development is Augustine Romero, a founder of and major advocate for the discontinued MAS program, this assumption could prove to be correct, regardless of district leadership's stated intentions.

In December, 2011 an administrative law judge who had received thousands of pages of evidence concluded:

“A.R.S. § 15-112(F) permits the historical (objective) instruction of oppression that may, as a natural but unintended consequence, result in racial resentment or ethnic solidarity. However, teaching oppression objectively is quite different than actively presenting material in a biased, political, and emotionally charged manner, which is what occurred in MAS classes. Teaching in such a manner promotes social or political activism against the white people, promotes racial resentment, and advocates ethnic solidarity, instead of treating pupils as individuals.”

The evidence introduced at the hearing included much that was startling, including for example a page of student artwork (which the MAS teacher had posted outside the classroom) that superimposed a large swastika on the Arizona flag. Perhaps more significant than such examples of student work was the curriculum and teacher instructional material used by the program and submitted as evidence.

A month after that ruling Dr. Romero published an editorial in the *Arizona Daily Star*, in which he wrote:

“We are not going away despite the racist, immoral and hypocritical discourse created by our naysayers... What we created has been more effective, inclusive, engaging, relevant, transformative, equitable, caring, meaningful and American than anything else produced by TUSD in its 150-year history... we are not willing to negotiate or compromise, because we’ve done nothing wrong... To date, neither the district nor the state has provided the public with any evidence that we have erred in any way.”

(5) Such a curriculum mandate is unusual in desegregation cases and driven by no previous action in this case.

I am not a lawyer, much less a lawyer with expertise in this area of law, and so all of my comments on the legal issues in this case come with that major caveat.

The curriculum mandate is an odd element in this proposed desegregation plan, partly because it is hardly related to the Green factors that, since a 1968 Supreme Court decision, form the usual architecture for desegregation remedies. The Green factors are: student assignment; faculty assignment; facilities; and extracurricular activities and transportation. The curriculum mandate also seems unrelated to TUSD’s original constitutional violation, as identified by the district court in 1978, and no subsequent constitutional violations have been established.

TUSD’s November 9 court filing quotes the Tenth Circuit court in 1975: “[t]he clear implication of arguments in support of the [plan before the court] is that minority students are entitled under the fourteenth amendment to an educational experience tailored to their unique cultural and developmental needs. Although enlightened educational theory may well demand as much, the Constitution does not.”

Moreover, the Ninth Circuit ruling that sent TUSD’s case back to the district court did not focus on any constitutional violations but instead on TUSD’s failure to monitor, report, and evaluate its desegregation programs.

TUSD did state that it would offer Mexican-American Studies courses, in the original post-unitary plan that the Board approved by a 4-1 vote in 2009 (I dissented because I anticipated many problems), but that plan is now obsolete and almost everyone now agrees that it was poorly crafted and unworkable. TUSD’s own discarded plan is a poor example for the current plan.

In any case, the 2009 plan (which incidentally did not mandate any *core* courses) was merely TUSD’s plan for moving forward *after* being found to be desegregated and released from court oversight – not a plan to remedy desegregation. The Board, when it approved that plan, also reserved the future right to change it without obtaining permission from the court. In short, the purpose and legal standing of the 2009 plan were quite different from the plan now being contemplated.

Responding to TUSD’s contention that the curriculum mandate has no precedent in the United States’ long history of desegregation cases, the Department of Justice’s (DOJ) filing on December 14 shows through

examples that curriculum issues have appeared in many desegregation cases and remedies. Yet despite what I must assume was thorough research the DOJ does not appear to cite or identify any previous example in which the courts have ever imposed such a specific curriculum mandate. The strongest precedent that the DOJ cites (by my reading) is one in which a school district was required to develop an unspecified “program for comprehensive multi-ethnic instruction.” Note that the court said “instruction” not “curriculum”.

Therefore, by the evidence of its own filing, the DOJ is asking the court to impose a curriculum mandate far more prescriptive than anything any court has done in the past.

The previous Board always supported inserting some of the curriculum content of the discontinued MAS program into the high school courses that every student takes. The new Board will presumably show similar or stronger support for such changes. The issue is whether the court should force major curriculum programs onto the Board and tie the hands of future Boards.

(6) The mandate could force the district into conflict with state law.

The state of Arizona, in its November 28 objection to the draft plan, argues that the proposed curriculum is in tension with the part of state law (created notoriously by HB 2281) that *forbids courses that are “designed primarily for pupils of a particular ethnic group.”*

Navigating between the curriculum mandate and this provision of state law could be difficult for TUSD, and it is possible these two directives are inherently contradictory. The doctrine of federal preemption could resolve this conflict in favor of the court’s mandate, but that would require that the mandate flow out of federal law. The DOJ cites much precedent to argue that the district court has a broad warrant when constructing remedies for segregation, but the above quote from Tenth Circuit indicates that this warrant may not be broad enough to cover the proposed curriculum mandate.

In any case, common sense says that the court’s discretion must respect some limit. Federal courts cannot set aside state law capriciously. Here, the ultimate question seems to be whether the Equal Protection Clause of the 14th amendment is broad enough to set aside the italicized provision of state law, which, *prima facie*, seems to *promote* equal treatment.

Not being an attorney, I am unqualified to pass judgment on this point. (Indeed, it is possible that I completely misunderstand the legal issues.) As a Board member, however, I hope that the court does not force TUSD to take actions that invite litigation on the question of whether the court has pushed the frontier of desegregation remedies back so far that it has abused the principle of federal preemption.

(7) The proposed mandate is, essentially, a request that the court take sides in a political dispute.

Persons in state government began making the MAS curriculum into a major political issue in 2006, and the controversy has never abated since the governor signed HB2281 in 2010. For their part, MAS’s defenders have fought a vigorous political and later legal fight against the state to preserve or restore the curriculum. In 2011 the issue expanded (unfortunately) to the national stage, receiving editorial attention in outlets such as the *New York Times*, the *Los Angeles Times*, PBS, and Fox News.

MAS was, not surprisingly, one of the biggest issues in the 2012 TUSD Board elections. Two of the challengers, who both won seats, showed their first conspicuous interest in TUSD by expressing support for MAS. Two unsuccessful challengers also made support for MAS a major part of their platforms. On the other hand, the three incumbents and at least two unsuccessful challengers defended the Board's actions. The election results were mixed, with Board defenders (on this issue) taking the second, fourth, and sixth places, and critics taking the first, third, and seventh places. (The candidate who placed fifth did not emphasize the MAS issue.)

Three parties in the desegregation case -- the Mendoza plaintiffs, the DOJ, and the Special Master -- clearly want the court to weigh in by imposing the curriculum mandate. The Fisher plaintiffs' priorities appear to lie elsewhere, and the reference to curriculum emphasizing African American history etc. may be included in the draft plan mainly to balance the Latino component. (It is important to emphasize that I can speak for none of the parties, including the Board, of which I am only one member.) The court rejected the state's initial request to be a party in the case but allowed it to file a brief, which as expected opposed the curriculum mandate.

The Board that had dealt with the MAS issue through 2011 and 2012 opposed the curriculum mandate, but the first major act of the 2013 Board (with two new members) was to vote 3-2 to recant publicly the previous Board's objection.

It is natural for MAS supporters, as part of their legal strategy, to ask the court to impose the curriculum mandate, but I hope that the court declines this invitation to take sides in what is mainly a political dispute. The MAS program was not even on the horizon when the desegregation case began and the recent election did not change any of the underlying legal issues. Instead, the shifting *political* climate has changed the Board's majority viewpoint on the MAS issue twice through the last three election cycles. The next election in 2014 may change it again. The court's decisions, which will bind present and future Boards, should be made in the context of the decades-long history of this case and not be overly driven by who happens to assemble three votes on the Board at any particular point in time.

The plan-drafting process proceeded much more slowly than the court originally requested, in part because it became, in my opinion, somewhat chaotic and highly politicized. The early concepts for the draft plan (which remain confidential, as far as I know) seemed reasonable to me, but as months went on the process became increasingly infected by issues and interests external to the original desegregation case.

The DOJ's stance illustrates, I believe, how far the process has wandered from purely legal and research-based foundations. (The DOJ began its current intervention by supporting the plaintiffs when their objections to releasing TUSD from court oversight reached the Ninth Circuit.) In its December 14 court filing, the DOJ strongly endorses the curriculum mandate, stating that it is "necessary" to the plan because "the inclusion of these culturally relevant courses of instruction and the expansion of the multicultural curriculum at all grade levels signals to all students that their stories and their backgrounds are valued and are an important part of their educational experience." While acknowledging again that I am not a lawyer, that argument seems somewhat detached from the usual legal warrants for desegregation remedies; and in any case there are many other ways to send that signal.

The DOJ also promotes at length the achievement gains claimed by the Cabrera study (discussed above), even though all parties in the case had received a comment from me pointing out its substantial methodological flaws and the need for peer review by disinterested and reputable statisticians. The DOJ's filing concludes, without ever mentioning those concerns: "The [Cabrera] study found that, controlling for numerous demographic factors and other variables, the MAS classes provided significant educational benefits to students, substantially improving their state test ("AIMS") scores and their graduation rates." The DOJ thus appears to be reasoning backward, starting from its support for the curriculum mandate and looking for evidence to fortify that position, rather than deriving its recommendation from an objective assessment of evidence.

Of course, I do not claim to be a neutral participant myself; I simply hope that the court remains neutral. I believe that its prudent course is to leave detailed curriculum decisions where they constitutionally and historically and properly belong: with the state and the local board of education.

Sincerely,

Mark Stegeman