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DOCUMENTS REVIEWED:	"The High Cost of Failing to Reform Public Education in Missouri" "The High Cost of Failing to Reform Public Education in Indiana" "The High Cost of Failing to Reform Public Education in Texas" "The High Cost of South Carolina's Low Graduation Rates" "The High Cost of Low Graduation Rates in North Carolina"
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Summary of Review

Five sister reports published by the Friedman Foundation over the past two years have ignored the relevant research literature in asserting that private-school voucher programs can reduce the social costs of dropping out while increasing graduation rates. The reports are state-specific, targeting five different states. But each report follows a parallel structure, arguing that the state in question overestimates its graduation rate, that the costs of dropping out are dramatic and that a private-school voucher program can increase graduation and address the dropout problem by generating competition. Yet the reports largely ignore the existing research literature on the personal and social benefits of educational attainment, the effects of school competition, and the factors associated with either completing or dropping out of high school. Further, each report does not provide sufficient information about how the author estimated the statistical claims made for each state, and the author fails to compare the alleged benefits of private-school vouchers with plausible alternatives, such as increasing public-school choice programs or improving graduation through other programs. State policymakers interested in increasing graduation would be better served by seeking out the available, well-researched scholarship on the topic.

REVIEW

I. INTRODUCTION

For almost half a century, school reform advocates in the U.S. have pointed to high school dropout rates as a serious problem needing to be addressed. These advocates then contend that their proposals will be successful in reducing the individual and social costs of dropping out.¹ The list of reforms proposed as dropout prevention, remediation, or amelioration include remedial education, vocational education, work-study programs, individualized counseling or social work, day-care for students with children, pre-school access, early-childhood and elementary-school interventions, middle-school academic and behavioral interventions, high school academic and behavioral interventions, expanding the curriculum beyond traditional academics, confirming the central place of traditional academic curricula, retaining more students in a grade, reducing grade retention, requiring students to pass exams to earn a diploma, eliminating graduation exit exams, and quantifying and setting targets for graduation.

In a series of reports sponsored primarily by the Milton and Rose D. Friedman Foundation, author Brian Gottlob has expanded the list of proposed solutions to include public funding for students to attend private schools — commonly known as voucher policies. Gottlob's argument in each report is that increasing competition through a voucher program will pressure all schools to improve outcomes, including a substantial increase in high school graduation.

In all, the Friedman Foundation has published or co-published state-specific reports for five different states: Missouri, Indiana,

Texas, South Carolina, and North Carolina.² Each report follows a parallel structure, first offering crude estimates of the social costs of dropping out for that state, and then using a single article from the school choice literature to estimate increases in graduation from the implementation of a voucher program and attendant savings for the state.

All five reports use the existing literature on dropping out and school competition in a superficial way. In describing the urgency of the issue, the reports use cross-sectional comparisons of earnings and the social burdens of high school graduates and dropouts. That is, they look at a slice of the population, comparing the earnings of those with and without diplomas. While such cross-sectional analyses are commonly used in the public debate over dropping out, they are inaccurate for a variety of reasons that will be covered in some detail later in this review. While there are acknowledged social benefits to increasing educational attainment, the size of that benefit is a matter of vigorous debate.

A deeper flaw in each report is the use of a single 1998 article written by Thomas Dee to calculate the alleged increase in high school graduation that would result if the state in question adopted a voucher program.³ That article is not a definitive study of school competition; the Friedman Foundation reports ignore the broader literature that provides (at best) mixed evidence of a competition effect on graduation. Even viewed in the most positive and forgiving light, this research suggests no more than a small effect.

Finally, the reports fail to put the recom-

mendation for vouchers in the context of possible alternatives. Alternatives include a range of proposals to increase graduation including, if state policymakers are considering school choice, public-school choice. Without a comparative analysis of alternative proposals to increase high school graduation, the reports are of little practical use to policymakers who have no means by which to gauge the value of vouchers versus other alternatives.

Readers of each report should be aware that this is a series of reports, with the details of the arguments changed in a formulaic manner for each state in question. While the first two of these reports were published only by the Friedman Foundation, the last three have been co-published with state-level advocacy organizations.

II. FINDINGS AND CONCLUSIONS OF THE REPORTS

The five reports were all published between March 2006 and October 2007. Each report makes the same argument:

- The state's high school graduation rate is too low.
- There are social costs associated with low high school graduation, including lower tax revenues and higher costs of medical care and incarceration.
- Vouchers, or private choice, can increase the graduation rate through the effect of greater competition.

The conclusion of each report is a recommendation that the state implement vouchers to increase the graduation rate and save resources for that given state.

III. RATIONALES SUPPORTING FINDINGS AND CONCLUSIONS OF THE REPORTS

There are three main factual claims in each report concerning the extent of dropping out, the social costs of lower attainment, and the benefits of implementing statewide a private-school voucher program.

Dramatizing Dropouts

In each report, the first figure compares the report's estimates of the state's population aged 20-64 — primarily comparing those with no high school diploma, in contrast to those with a high school diploma, with some college experience, and various levels of higher education degree recipients.

This approach — breaking down the rest of the population into a wide variety of sub-groups and comparing dropouts to each of these groups — incorrectly suggests that dropouts make up a very large portion of the overall population. In each report, the caption for the first figure highlights the groups with smaller numbers than high school dropouts. In Texas, for instance, the first figure notes that there are more estimated dropouts than for any category of higher education degree recipients. In Missouri, dropouts only outnumber advanced degree recipients and associate degree recipients. In the South Carolina report, the bar graph is misleading: while there are fewer estimated dropouts (347,557) than college graduates (403,895) or those with some college experience (454,847), the dropout bar extends further than the other bars.

The next part of each report asserts that the given state underestimates the dropout problem and overestimates graduation. Because the No Child Left Behind Act allowed each state to define a graduation rate, many states

composed measures that inflated any reasonable estimate of graduation.⁴ The reports use that fact to point out how the state in question reports inaccurate graduation rates; the reports also cite data on several measures that present graduation rates lower than the state's official measures.

Illustrating Costs

The next section of each report attempts to quantify the costs of lower attainment. In each case, the report contrasts cross-sectional data on the unemployment rate, income, use of Medicaid, and incarceration rates for dropouts, high school graduates, and residents with some higher education. For example, for Indiana, the state report asserts that high school graduates earn approximately \$10,000 more per year and have an unemployment rate more than 7% higher than any other group of state residents.⁵

Each report then aggregates the individual statistics to assert that the total cost of dropping out is the per capita difference in costs between dropouts and high school graduates (private income, lost taxes, increased burdens through Medicaid or prison) multiplied by the total number of dropouts in the state. Again for Indiana, the report estimates the total annual costs of dropping out to include \$4.4 billion in lost wages, \$150 million in lost tax revenue, \$510 million in additional Medicaid expenses (\$190 million from the state of Indiana), and \$27 million annually in extra costs of incarceration.

Justifying Vouchers

The last section of each report attempts to estimate the benefits of increasing the proportion of state students in private schools. Each report refers to a single 1998 article that estimated the competitive effect on graduation to be an approximately 2% in-

crease in graduation for each standard-deviation increase in private-school enrollments. Each report claims to replicate the study's methods in the state in question and, from that assertion and the costs described earlier, each report quantifies the number of students that would be necessary to increase private-school enrollments by a standard deviation, estimates the resulting increase in graduation, and calculates the benefits from the estimates set forth in the prior section.

Again for Indiana, the state report claims that a replication of the 1998 study produced an estimated effect double that of the national results, and that an increase in private-school enrollment of 56,000 students would result in between 2,000 and 4,000 additional graduates and a total annual saving of between \$5.8 and \$11.8 million per year. The report then multiplies by 50 to arrive at a figure of more than \$300 million over half a century.

IV. THE REPORTS' USE OF RESEARCH LITERATURE

The claims in each report should be related to four different areas of research literature: the measurement of high school graduation, the private and social benefits of educational attainment, the effects of competition on educational outcomes, and the literature on high school graduation and dropping out. Each report makes reasonable if slim use of the literature in this last area: measuring high school graduation. But the reports fail to acknowledge the important questions or findings in the other three areas: the existing literature on the benefits of educational attainment, educational competition, and the factors shaping educational attainment.

Measuring Graduation

There is a growing literature on the prob-

lems of measuring graduation. Researchers and other observers generally agree that states have chosen a variety of measures that artificially inflate graduation statistics. These approaches include the inflation of diploma counts by including GEDs, the use of quasi-cohort measures that fail to adjust for transfer of students between schools or migration, and the use of administrative measures of dropping out (such as reports of school principals), when such counts historically have missed substantial proportions of dropouts. The Friedman Foundation reports do cite a small part of the relevant literature. Yet even if they had chosen other available measures, the state dropout rates would not look much better.⁶

The Costs of Dropping Out

Gottlob writes about the costs of dropping out, but he ignores the extensive, published debate among economists about the benefits of educational attainment and both the private and social costs of dropping out.⁷ A plurality of articles over several decades uses cross-sectional comparisons of income among people with different educational credentials to estimate the private benefits of attainment. These analyses are more sophisticated than the simple comparisons presented in the Friedman Foundation reports, and economists recognize several complicating factors in estimating the costs of dropping out.

The largest point of controversy is over the meaning of a diploma: Is it an indirect measure of actual skills and knowledge acquired through education — an increase in *human capital*? Or is a diploma merely a *credential* unrelated to purported changes in human capital? Further, there are two contrasting ways to view the diploma-as-credential. One holds that the diploma doesn't really represent anything learned in

formal schooling; instead, it helps identify people with certain desirable, intrinsic traits (such as intelligence, creativity, or persistence — what the proponents of this view see as permanent character traits) that have enabled them to attain the degree. The other viewpoint, however, holds that education simply replicates and enforces existing social inequalities. Viewed this way, the credential, the diploma, merely justifies a sorting process that would happen anyway in the labor market.

These conflicting views make it more difficult for economists to measure just how much a diploma benefits an individual, and even those who find a real human-capital benefit acknowledge that diplomas still function in part as a credential. To put it bluntly, if we could wave a magic wand so that everyone earned a high school diploma, the fact of universal graduation would not guarantee higher-paying jobs to all of the new graduates.

A lesser point of controversy is a common confusion between the private and social benefits of educational attainment. On the one hand, the expected longer-term return in the form of a better-paying job may motivate many to continue in school, even at the cost of more immediate opportunities. But that is not enough to draw broader social conclusions about the benefits of education. Because of a limited supply of well-paying jobs, when many people try to improve their position in a competitive labor market, that competitive motivation does not translate in a simple way into greater productivity for the entire economy.

On the other hand, the conflation of private with social benefits may mask benefits that only appear when looking at a population. When there is a critical mass of well-educated workers, companies may be more

inclined to move to that location, and the critical mass may create a broader synergy that would be invisible when looking at a simple aggregation of private benefits. Non-economic benefits may also be related to such externalities; if a critical mass of parents in a neighborhood makes sure their children read books, peer pressure may affect the behavior of other parents.

Finally, there are continuing debates over the best methods to estimate income effects of even simple private benefits. Private benefits depend at least somewhat on macroeconomic conditions. A cross-sectional comparison of income confuses the effects of a single year's economic conditions with the likely differences in lifetime earnings. One researcher who tried separating the two issues found that cross-sectional estimates may underestimate benefits when wages are generally rising and may overestimate benefits when wages are falling.⁸

None of these issues are addressed in the oversimplified presentation in the reports.

School Competition

While the research literature on the effects of competition in schooling is much smaller than the literature on the costs of dropping out, it is still substantially more established than the Friedman Foundation reports acknowledge. And there is no research consensus that greater competition fosters higher graduation rates.⁹

From the literature, there are three reasons why one should be especially wary of the reports' cherry-picking a single study as the basis for estimates of benefits from a proposed private voucher policy. One reason for skepticism is that estimates of alleged benefits vary considerably depending on the choice of data or the level of geographic ag-

gregation for analyzing school markets. According to Marlow's 1997 article, the effects of school competition depends on whether you pick school district or county as the natural market for parents, and whether you choose a national sample of, e.g., 1988 eighth graders followed up over the years or a different national database. When the conclusions differ on the basis of such choices, no single study can be definitive.¹⁰

In addition to knowing about the instability of estimates, readers of the Friedman Foundation reports should be aware that the school-competition literature includes competition within the public sector as well as competition between public and private schools.¹¹ The assumption of the report is that competition can only be increased through private-school vouchers, and that assumption is misleading.

Furthermore, readers of the Friedman Foundation reports should know that the cherry-picked 1998 article relies on an estimate of high school graduation that the Friedman reports themselves criticize: Dee used administrative counts of dropouts to generate a synthetic dropout measure. Accordingly, the linchpin of the reports' calculation is inferior to other studies that use national longitudinal data sets and individual-level data on attainment.

Graduation and Dropping Out

Finally, the reports make no mention of the extensive literature exploring graduation, dropping out, and the factors that shape educational attainment.¹² In doing so, each report treats the educational process as a black box, as if the reasons why students drop out of school are largely irrelevant to policymakers. In that omission, each report obscures other program options that policymakers could consider.

Several of those alternatives deserve greater scrutiny by state policymakers, including preschool education, comprehensive intervention programs in middle and high schools, changes in child labor laws, and in states with mandatory exit exams, modifications of exit-exam requirements.

IV. REVIEW OF THE REPORTS' METHODS

Previous sections of this review have discussed weaknesses in the way that the Friedman Foundation reports ignored the literature on the benefits of educational attainment, the effects of school competition, and high school graduation, as well as the reports' simplistic presentation of the costs of dropping out. Some additional concerns are warranted in terms of the reports' failure to provide enough information about their estimation methods.

In each of the reports, the author refers to unpublished calculations of the number of dropouts, the cross-sectional benefits of high school graduation, a local replication of the 1998 school competition study, and the alleged direct savings of a voucher program. In each case, the calculations would require considerable discretionary judgment in selecting data, choosing a method of calculating graduation rates, weighting cases, and other issues that would, in sound scholarship, be described in detail either in the text of a report or in an appendix. In particular, the choice of a graduation measure has important implications for statistical analyses.¹³ Without the publication of sufficient details, readers should not trust the factual claims about each state that is made in the reports, where detailed statistical algorithms are required, in the replication of the 1998 study of school competition.

V. REVIEW OF THE VALIDITY OF THE FINDINGS AND CONCLUSIONS

The one trustworthy conclusion of each Friedman Foundation report — and a conclusion that has been set forth in many recent scholarly analyses — is that states overestimate graduation and underestimate dropping out. In addition, the reports are correct in asserting that there are both private and social costs to dropping out, though the facile estimates in these reports are likely to be inaccurate.

The reports' conclusions about the benefits of school voucher programs are not trustworthy, both because the reports ignore the existing body of literature on effects and also because they fail to provide sufficient information about the calculation of estimates.

In addition, readers of each Friedman Foundation report should be aware that the recommendation is not placed in the context of all policy options for increasing graduation and reducing the costs of dropping out. Even if the factual claims of the report were trustworthy, the relevant issue for policymakers is to select from the best options for increasing graduation. Even within the realm of school choice, the report failed to acknowledge the potential for public-school choice to garner much of the hoped-for competition benefits of a private-school voucher program.

Responsible researchers acknowledge the complexity of dropping out as a phenomenon and the different options that need to be weighed against each other, including preschool programs, reducing class sizes, and community-level intervention.¹⁴

VI. USEFULNESS OF THE REPORTS FOR GUIDANCE OF POLICY AND PRACTICE

Dropping out is generally acknowledged as a serious problem both for students who leave school and also for society. The broader social costs include economic penalties for lower educational attainment; costs associated with dependency; the potential damage to a democratic society of having a less-educated group of voters and jurors; and the damage to an egalitarian society when there are substantial differences in who graduates based on social class, race, ethnicity, and the presence and nature of disabilities. While the Friedman Foundation reports dramatically simplified the costs, they are real.

State policymakers might be tempted to view the reports published by the Friedman Foundation as a rational response to such

concerns. The weaknesses described in this review should make clear the problems with relying on any of these reports: the failure to respect the existing research literature in key topics, the failure to provide sufficient information for readers to judge the conclusions, and the failure to put the proposed recommendation in a context of different options to improve graduation.

State policymakers would be better advised to consult a report just issued by the Brookings Institution, entitled *The price we pay: Economic and social consequences of inadequate education*.¹⁵ The book, edited by Clive Belfield and Henry Levin, more appropriately handles all of the issues identified in this review. Moreover, the policy choices discussed in the Belfield and Levin anthology provide a more realistic basis for increasing graduation and reducing dropping out.

NOTES & REFERENCES

¹ One general source for the history of dropping out as a demographic phenomenon and focus of policy debates is the following:

Dorn, S. (1996). *Creating the dropout: An institutional and social history of school failure*. Westport, CT: Praeger.

² The five reports are as follows:

Gottlob, B.J. (2007, October). *The high cost of low graduation rates in North Carolina*. Indianapolis: Milton and Rose D. Friedman Foundation and Parents for Educational Freedom in North Carolina. Retrieved January 2, 2008 from <http://www.friedmanfoundation.org/friedman/downloadFile.do?id=256>

Gottlob, B.J. (2007, June). *The high cost of South Carolina's low graduation rates*. Indianapolis: Milton and Rose D. Friedman Foundation South Carolina Policy Council. Retrieved January 2, 2008 from <http://www.friedmanfoundation.org/friedman/downloadFile.do?id=250>

Gottlob, B.J. (2007, February). *The high cost of failing to reform public education in Texas*. Indianapolis: Milton and Rose D. Friedman Foundation, the National Center for Policy Analysis, and the Hispanic Council for Reform and Educational Options. Retrieved January 2, 2008 from <http://www.friedmanfoundation.org/friedman/downloadFile.do?id=107>

Gottlob, B.J. (2006, October). *The high cost of failing to reform public education in Indiana*. Indianapolis: Milton and Rose D. Friedman Foundation. Retrieved January 2, 2008 from <http://www.friedmanfoundation.org/friedman/downloadFile.do?id=97>

Gottlob, B.J. (2006, March). *The high cost of failing to reform public education in Missouri*. Indianapolis: Milton and Rose D. Friedman Foundation. Retrieved January 2, 2008 from <http://www.friedmanfoundation.org/friedman/downloadFile.do?id=95>

³ The reports consistently misspell the author's last name as "Dees":

Dee, T. (1998). Competition and the quality of public schools. *Economics of Education Review*, 17(4), 419-27.

⁴ There is a growing consensus for the need to track individual students for longitudinal graduation measures:

National Governors' Association. (2005). *Graduation counts: A report of the National Governors Association Task Force on State High School Graduation Data*. Washington D.C.: National Governors Association.

⁵ For the rest of this section, the report on Indiana will be the example to illustrate the broader argument in each report.

⁶ Some of the important technical discussions *not* cited by the reports include the following:

Seastrom, M., et al. (2006a). *User's guide to computing high school graduation rates. Volume 1. Technical report: Review of current and proposed graduation indicators*. NCES 2006-604. Washington, DC: National Center for Education Statistics.

Seastrom, M., et al. (2006b). *User's guide to computing high school graduation rates. Volume 2. Technical report: Technical evaluation of proxy graduation indicators*. NCES 2006-605. Washington, DC: National Center for Education Statistics.

Warren, J.R. (2005). State-level high school completion rates: Concepts, measures, and trends. *Education Policy Archives*, 13(51).

Warren, J.R., & Halpern-Manners, A. (2007). Is the glass emptying or filling up? Reconciling divergent trends in high school completion and dropout. *Educational Researcher*, 36(6), 335-343.

⁷ A very small portion of the relevant literature includes the following, which form the basis for the discussion in this subsection:

Acemoglu, D., & Angrist, J. (1999). *How large are the social returns to education? Evidence from compulsory schooling laws*. NBER Working Paper No. 7444. Cambridge, MA: National Bureau of Economic Research.

Acemoglu, D., & Angrist, J. (2000). How large are human-capital externalities? Evidence from compulsory schooling laws. *NBER Macroeconomics Annual*, 15(1), 9-59.

- Arias, O. (2001). Dynamic rates of return to education in the U.S. *Economics of Education Review*, 20(2), 121-38.
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- Barrow, L., & Rouse, C.E (2005). Does college still pay? *The Economists' Voice*, 2(4), article 3.
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- Belfield, C., & Levin, H.M., (Eds.). (2007). *The price we pay: Economic and social consequences of inadequate education*. Washington D.C.: Brookings Institution Press.
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- Sianesi, B., & Van Reenen, J. (2003). The returns to education: Macroeconomics. *Journal of Economic Surveys*, 17(2), 157-200.
- Weiss, A. (1995). Human capital vs. signaling explanations of wages. *The Journal of Economic Perspectives*, 9(4), 133-154.
- ⁸ See Arias, O. (2001). Dynamic rates of return to education in the U.S. *Economics of Education Review*, 20(2), 121-38.
- ⁹ The relevant publications focusing on high school graduation include the following (only Dee, 1998, is cited in the Friedman Foundation reports):
- Belfield, C., & Levin, H.M. (2002). The effects of competition between schools on educational outcomes: A review for the United States. *Review of Educational Research*, 72(2), 279-341.
- Dee, T. (1998). Competition and the quality of public schools. *Economics of Education Review*, 17(4), 419-427.
- Greene, J. P., & Winters, M. A. The effect of residential school choice on public high school graduation rates. *Peabody Journal of Education*, 81(1), 203-216.
- Hoxby, C.M. (1994). *Do private schools provide competition for public schools?* NBER Working Paper 4979. Cambridge MA: National Bureau of Economic Research.
- Hoxby, C.M. (2000). Does competition among public schools benefit students and taxpayers? *The American Economic Review*, 90(5), 1209-1238.
- Jepsen, C. (2002). The role of aggregation in estimating the effects of private school competition on student achievement. *Journal of Urban Economics*, 52(3), 477-500.
- Marlow, M. (1997). Public education supply and student performance. *Applied Economics*, 29(5), 617-626.
- Rouse, C. (2006). U.S. elementary and secondary schools: Equalizing opportunity or replicating the status quo? *Future Child*, 16(2), 99-123.
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- ¹⁰ See Jepsen, C. (2002). The role of aggregation in estimating the effects of private school competition on student achievement. *Journal of Urban Economics*, 52(3), 477-500.

¹¹ For example, see

Hoxby, C.M. (2000). Does competition among public schools benefit students and taxpayers? *The American Economic Review*, 90(5), 1209-1238.

Greene, J. P., & Winters, M. A. The Effect of Residential School Choice on Public High School Graduation Rates. *Peabody Journal of Education*, 81(1), 203-216.

¹² A small portion of the relevant literature includes the following:

Alexander, K. (2001). The dropout process in life course perspective: Early risk factors at home and school. *Teachers College Record*, 103(5), 760-822.

Fine, M. (1986). Why urban adolescents drop into and out of public high school. *Teachers College Record*, 87(3), 393-409.

Fine, M. (1991). *Framing dropouts: Notes on the politics of an urban public high school*. Albany, NY: State University of New York Press.

Orfield, G. (Ed.). (2004). *Dropouts in America: Confronting the graduation rate crisis*. Cambridge, MA: Harvard Education Press.

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Rumberger, R.W., & Thomas, S.L. (2000). The distribution of dropout and turnover rates among urban and suburban high schools. *Sociology of Education*, 73(1), 39-67.

Warren, J.R., & Edwards, M.R. (2005). High school exit examinations and high school completion: Evidence from the early 1990s. *Educational Evaluation and Policy Analysis*, 27(1), 53-74.

Warren, J.R., Jenkins, K.N., & Kulick, R.B. (2006). High school exit examinations and state-level completion and GED rates, 1975 through 2002. *Educational Evaluation and Policy Analysis*, 28(2), 131-152.

¹³ See Warren, J.R. (2005). State-level high school completion rates: Concepts, measures, and trends. *Education Policy Analysis Archives*, 13(51).

¹⁴ For an example of such comparisons, see Belfield, C., & Levin, H.M., (Eds.). (2007). *The price we pay: Economic and social consequences of inadequate education*. Washington D.C.: Brookings Institution Press.

¹⁵ Belfield, C., & Levin, H.M., (Eds.). (2007). *The price we pay: Economic and social consequences of inadequate education*. Washington D.C.: Brookings Institution Press.

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