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Review of *Overcoming the Governance Challenge In K-12 Online Learning*

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Summary of Review

This fifth and final paper in the Fordham Institute's series examining digital learning policy is *Overcoming the Governance Challenge in K-12 Online Learning*. The purpose of this report is to outline the steps required to move the governance of K-12 online learning from the local district level to the less restrictive state level and to create a free market for corporate innovation in K-12 online learning. Unfortunately, the report is based on an unsupported premise that K-12 online learning will lead to increased student achievement. The body of research to date suggests that there is no learning advantage for virtual schools. Further, no evidence is presented that supports the wisdom or efficacy of centralizing governance at the state level or that moving to a market model is a superior, productive or economical practice. The recommendation that virtual schools should be funded at the same per-pupil amount as traditional public schools raises the question of profiteering, given Fordham's claim that virtual schools operate more economically (a claim for which there is limited evidence). This report appears to be ideologically motivated and designed to open up the $600 billion market of K-12 education to for-profit corporations.

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Review of *Overcoming the Governance Challenge in K-12 Online Learning*

Michael Barbour, Wayne State University

I. Introduction

The use of online learning in the K-12 environment in the United States began with the private Laurel Springs School around 1991,[1] followed by the first supplemental virtual school, the Utah Electronic High School, in 1994,[2] and the first cyber charter school, Choice 2000 in California.[3] A decade after these initial developments, the *Virtual Schools: Trends and Issues* report stated that there were at least 14 states with existing or planned virtual schools and approximately 40,000 to 50,000 students enrolled.[4] In 2011 the *Keeping Pace with K-12 Online Learning* report indicated that there is now significant K-12 online learning activity in all 50 states,[5] with an estimated 2 million students enrolled in supplemental online courses and over 250,000 students learning online full time.[6] Some have even predicted that the majority of K-12 education will be delivered using online technologies in the next decade.[7]

This was the state of K-12 online learning when the Fordham Institute embarked upon its five-part series examining digital learning policy. The fifth and final paper in this series is *Overcoming the Governance Challenge in K-12 Online Learning*.[8] The purpose of this report is to outline steps necessary to move the governance of K-12 online learning from the local district level to less restrictive state governance models and to "create a public market for K-12 online learning" (p. 1).

II. Findings and Conclusions of the Report

The report sets out the premise that learning with technology is an effective instructional tool and that online learning is a proven method for improving student learning. Further, the report is based on the assumption that regulations—pursued by local school districts and teachers unions—are the reason that private corporations have not been able to provide technological innovation in the $600 billion industry of K-12 education. To correct this situation and open up this market for for-profit investors, the report recommends 10 steps to create a new system of governance for K-12 online learning:

1. Set K-12 Online-Learning Policy at the State Level
2. Create a Public Market for K-12 Online Learning
3. Provide Students the Right to Choose Online Learning Full Time
4. Provide Students the Right to Choose Online Learning Part Time
5. Authorize Statewide Online Charter Schools, Overseen by Statewide Charter Authorizers
6. License Supplementary Online Providers
7. Fund All Learning Opportunities Equally Per Pupil
8. Exempt Online and Blended Teaching from Traditional Teacher Requirements Including Certification and Class Size
9. Establish Student Learning as the Foundation of Accountability for Online Schools and Providers
10. Address Market Imperfections by Providing Abundant Information to Students, Families, Schools, and Districts

These 10 steps will allow states to generate "technological innovation, new approaches to teaching and learning, and higher levels of achievement" (p. 17).

III. The Report's Rationale for Its Findings and Conclusions

The course of action this report charts for policymakers is based on three premises. The first and most fundamental premise is that technology—and specifically online learning—can improve student achievement. The report states that "online learning and computer-based instruction have promising track records of raising achievement in K-12 schools" (p. 1). Institutions in higher education have already recognized the promise of this technology and provide ample opportunities for students to take advantage of the innovative teaching that can occur in online environments, but those in charge have the K-12 system have been resistant to change.

The second premise is that one reason higher education has undergone this technological revolution and K-12 education has not is that "higher education is a buzzing, competitive marketplace of public and nonprofit and for-profit private institutions" (p. 2). Essentially, competition and free market principles have forced all aspects of higher education to become more innovative, and this has been responsible for improving the quality of higher education.

The third premise is that "technology could do for K-12 education what it has done for virtually every other industry throughout history: make people and their industries more productive" (p. 3). However, resistance from teachers unions and local school districts has prevented this transformation.

> School districts throughout the United States enjoy what amounts to monopoly of power in their local school markets. School districts have the right to determine which schools students must attend, what curricula they receive, and how much access they are provided to online education" (pp. 3-4).[9]

While the disruptive forces of online learning will eventually overcome this resistance, Chubb writes, these 10 steps would allow policymakers to speed up that process and allow the competitive marketplace to increase opportunities for and the achievement of all K-12 students.

IV. The Report's Use of Research Literature

The report makes little use of research, and even less of peer-reviewed research. Of the 35 different references cited in this report, 18 are from think tanks, professional practitioner organizations, and lobbying or representative associations. The remaining citations include five books or book chapters, three government reports, three websites, two presentations at invited or practitioner conferences, one newspaper article, and one legislative statute. Only two of the citations are from peer-reviewed publications: the first

This report is based upon flawed premises that are not supported by the existing body of research and run counter to the dominant findings in the field.

is a 14-year-old evaluation of a value-added assessment system in Tennessee, and the second is a statistical analysis of the impact of teacher quality, school selection, class size and teacher experience on student achievement in Texas using data from 1993-95.

The lack of research literature to support the fundamental premise that virtual schools are an effective means of providing K-12 education leaves the market-model and centralization recommendations invalid. There is also no support for the organizational and funding recommendations; indeed the funding recommendation runs counter to an earlier Fordham Foundation report from this digital learning series.[10]

Impact of Technology on Student Achievement

The report's primary claim is that technology, and in particular online learning, is a proven way to improve K-12 student learning. The most comprehensive meta-analysis of the factors affecting student achievement is the work of John Hattie.[11] A meta-analysis is a statistical process that combines the results of a number of individual studies to establish an effect size (i.e., the effect that a specific intervention will have on student achievement). A meta-synthesis is a statistical process that combines the results of a number of meta-analyses to establish a combined effect size. Hattie's work is based on a meta-synthesis of over 800 meta-analyses representing 50,000 individual studies examining over 200

million students on 130 variables. In order for one of these interventions to be considered effective, Hattie's transformations indicate that an innovation should have an effect size of greater than 0.4, as a student would naturally improve this much based upon developmental effects (i.e., a student naturally getting a year older and a year wiser) and the effects that an average teacher would have on that student's performance. The meta-synthesis found the following results for technology-related variables:

Interactive video methods (effect size 0.52)

Computer-assisted instruction (0.37)

Use of calculators (0.27)

Programmed instruction (0.23)

Visual/audio-visual methods (0.22)

Web-based learning (0.18)

Distance education (0.09)

Television (-0.18).

With the exception of interactive video methods, students would have improved their performance just as much or more by getting a year older in the classroom of an average teacher than with any of these other technology variables. These results do not surprise those in the field of educational technology.[12]

Impact of K-12 Online Learning on Student Achievement

Meta-analysis conducted on the effects of K-12 online learning have yielded similar results. For example, Cavanaugh's first meta-analysis of 16 studies of K-12 distance education found a small positive effect of 0.147 in favor of the distance education students.[13] Her later meta-analysis of 14 studies found a small negative effect of 0.028 for the distance education students.[14] Neither of these meta-analyses of K-12 distance education rose to the 0.4 threshold established by Hattie.

The *Overcoming the Governance Challenge in K-12 Online Learning* report uses a United States Department of Education meta-analysis of 59 studies,[15] only five of which focused on K-12 learners, to support its claim that K-12 distance education is effective. The Fordham report asserts that the U.S. Department of Education meta-analysis "concluded that achievement in online courses was better than achievement in face-to-face courses. It also found that 'blended' courses, those offering online instruction coupled with face-to-face discussion, might be better still" (p. 2). What the Department of Education study actually reported, however, was that the effect size for the five K-12 studies was not significant. Further it included no blended learning studies that included K-12 students. The Department of Education meta-analysis also concluded, "despite what appears to be strong support for [online and] blended learning applications, the studies in this meta-

analysis do not demonstrate that online learning is superior as a *medium*" (emphasis in the original).[16]

Positive results are commonly reported for K-12 online students in the limited research base that now exists.[17] However, each of these studies points to the possible selective nature of the samples of online students represented in them, when their performance is compared with that of students in traditional classrooms. For example, Haughey and Muirhead described the typical online student in these studies as a highly motivated, self-directed, self-disciplined, independent learner who could read and write well and who also had a strong interest in or ability with technology.[18] This does not describe the average K-12 student, but similar descriptions of K-12 online learners have been made by numerous other researchers.[19] More recent research has spoken of the bi-modal nature of K-12 online learning enrollment (e.g., a highly selective student population alongside students possessing characteristics often attributed to at-risk students),[20] but little research has been done on how the lower-performing students do in the online environment, whether as supplemental or full-time students.

It should also be noted that none of this comparative research has included full-time online students. The only available sources for independent data on K-12 student performance in a full-time online environment are derived from legislative audits and investigative reports from media outlets.[21] These data have yielded mixed results, although the most consistent finding has been that K-12 students who study in a full-time online learning environment do not perform as well as students in the traditional face-to-face environment.

Regardless of whether we are considering supplemental or full-time online students, the research into student achievement in online learning does not provide a foundation for a dramatic expansion of the number or range of K-12 students engaged in online learning.

Effects of Technology on Learning

The report argues that there is a need to expand opportunities for K-12 students to learn online because "online learning and computer-based instruction have promising track records of raising achievement in K-12 schools" (p. 1). Further, it argues that "technology could do for K-12 education what it has done for virtually every other industry throughout history: make people and their industries more productive" (p. 3). The problem, as Thomas Friedman notes, is that technology alone does not alter productivity. It is only when technology brings about changes in the way business is conducted that we see any impact on the productivity of that industry.[22]

This has long been known in the field of educational technology. In his frequently cited article from the *Review of Educational Research*, Richard Clark wrote that technologies are "mere vehicles that deliver instruction but do not influence student achievement any more than the truck that delivers our groceries causes changes in our nutrition" (p. 445).[23] Essentially, technology and online learning will have no impact on student achievement unless they also change how instruction is designed, delivered, and supported. To date,

there is no independent, reliable research that indicates that this transformation of pedagogy is occurring.

V. Review of the Report's Methods

The report does not demonstrate any systematic research methods.

As noted above, the Achilles heel of the report is that it simply presumes that virtual learning is more effective than other learning approaches. It presents no foundation for this assertion and the extant research does not support it.

The report's 10 recommendations propose that the governance of virtual schools be at the state level and that market forces are the most effective means of achieving high outcomes. Again, the report provides no foundation for its claims. It fails to address a substantial body of literature suggesting that neither market forces nor centralization are educational panaceas.[24]

In discussing "the politics of resistance," the report makes specific reference to what it considers some of those restrictive legislative and regulatory regimes (e.g., Massachusetts, California, etc.). The only positive references to existing policies are either to those adopted by Florida or those proposed and lobbied for by charter school organizations . Interestingly, two earlier National Education Policy Center reviews of Florida as a model for educational reform called into question the validity of the claims of increased student performance and the assertion that differences in performance were attributable to the market-driven, school choice initiatives that have been implemented in that state.[25]

Further, as was indicated earlier, all 50 states and the District of Columbia have significant levels of K-12 online learning activity.[26] The report even notes that there are at least 38 states that allow full-time online learning for K-12 students. Yet there was no systematic analysis of these existing regulatory regimes, laws and policies.

In October 2011 the National Education Policy Center released *Model Legislation Related to Online Learning Opportunities for Students in Public Elementary and Secondary Education Schools*,[27] which reviewed all of the existing statutory frameworks in the United States and concluded that:

> . . . we reviewed all existing online and virtual school legislation in the United States. The annual *Keeping Pace* report of virtual school policies and adoption provided a useful starting point in identifying this legislation, and large parts of this model legislation have been borrowed or adapted from existing legislation. In particular, Florida and Colorado provided useful models, along with elements of the Arizona, Idaho, Maine, Montana, Nebraska, Pennsylvania, South Carolina, Tennessee, Washington, and Wisconsin statutes on virtual schools (p. 1).

It is this kind of systematic analysis that is missing from the Fordham proposals. Instead of conducting or objectively reviewing research, the report selects examples to buttress its subjective assertions.

VI. Review of the Validity of the Findings and Conclusions

This report is based upon flawed premises that are not supported by the existing body of research and run counter to the dominant findings in the field. Further, the lack of systematic analysis of the effectiveness of existing statutory and regulatory regimes reduces the recommendation of state centralization to an unsubstantiated claim. This is not a research report in any conventional use of the term. It is an advocacy document largely supported by like-minded, opinion-based literature, designed to advance an ideological agenda.

VII. Usefulness of the Report for Guidance of Policy and Practice

While the report is based on faulty, unsupported premises and an apparent lack of systematic methodology, there may be merit in further investigating some of its proposed 10 steps in their own right. For example, there is a growing acceptance that "seat time" or "line-of-sight" restrictions that tie funding to students who are physically attending a classroom should be revisited (several states, including Michigan and Illinois, have created processes to waive this requirement). There is also increasing support for moving towards a competency-based model for awarding credit (i.e., awarding credit based on student performance, as opposed to the amount of time spent enrolled in a course). The effects of these initiatives warrant close scrutiny. These potentially useful ideas for policy and practice are obscured, however, by the report's lack of research support and methodological flaws .

The usefulness of the 10 steps is further limited by the fact that the guidance is clearly aimed at opening up the $600 billion market of K-12 education to for-profit entrepreneurs. The report advises removing almost all restrictions on the size, scope and type of providers of K-12 online learning. It further suggests funding K-12 online learning at equal levels, even though an earlier paper in this series indicated that K-12 online learning is cheaper than instruction in a face-to-face environment. One of the final sentences of the report states, "the market is no panacea" (p. 17), which is an accurate sentiment based on the available research. The 17 pages that precede this statement, however, appear aimed at erasing that disclaimer .

Notes and References

1 Barbour, M. K. (2010). Researching K-12 online learning: What do we know and what should we examine? *Distance Education, 7*(2), 7-12.

2 Clark, T. (2003). Virtual and distance education in American schools. In M. G. M. W. G. Anderson (Ed.), *Handbook of distance education* (673–699). Mahwah, NJ: Lawrence Erlbaum Associates.

3 Darrow, R. W. (2010). *A comparative study between online charter high schools and traditional high schools in California*. Unpublished doctoral dissertation, California State University, Fresno.

4 Clark, T. (2001). Virtual schools: *Trends and issues – A study of virtual schools in the United States*. San Francisco, CA: Western Regional Educational Laboratories. Retrieved March 13, 2012, from http://www.wested.org/online_pubs/virtualschools.pdf.

5 Watson, J., Murin, A., Vashaw, L., Gemin, B., & Rapp, C. (2011). *Keeping pace with K-12 online learning: An annual review of policy and practice*. Evergreen, CO: Evergreen Education Group. Retrieved March 13, 2012, from http://kpk12.com/cms/wp-content/uploads/KeepingPace2011.pdf.

6 Watson, J., Murin, A., Vashaw, L., Gemin, B., & Rapp, C. (2011). *Keeping pace with K-12 online learning: An annual review of policy and practice*. Evergreen, CO: Evergreen Education Group. Retrieved March 13, 2012, from http://kpk12.com/cms/wp-content/uploads/KeepingPace2011.pdf;

Wicks, M. (2010). *A national primer on K–12 online learning, Version 2*. Vienna, VA: International Association for K-12 Online Learning. Retrieved March 13, 2012, from http://www.inacol.org/research/bookstore/detail.php?id=22.

7 Christensen, C. M., Horn, M. B., & Johnson, C. W. (2008). *Disrupting class: How disruptive innovation will change the way the world learns*. New York : McGraw-Hill.

8 Chubb, J. E. (2012). *Overcoming the governance challenge in K-12 online learning*. Washington, DC: Thomas B. Fordham Institute. Retrieved March 13, 2012, from http://www.edexcellence.net/publications/overcoming-the-governance-challenge-in-k-12-online-learning.html.

9 In addition to Chubb's reference to this point in the report, it forms a central thesis of his 2009 book with Moe, *Liberating Learning*:

Moe, T. M. & Chubb, J. E. (2009). *Liberating Learning: Technology, Politics and the Future of American Education*. San Francisco, CA: Jossey-Bass.

10 Battaglino, T.B., Haldeman, M., & Laurans, E. (2012). *The costs of online learning*. Washington DC: Thomas B. Fordham Institute. Retrieved March 13, 2012, from http://www.edexcellence.net/publications/the-costs-of-online-learning.html.

11 Hattie, J. (2009). *Visible learning: A synthesis of over 800 meta-analysis related to achievement*. New York: Routledge;

Hattie, J. (2011). *Visible learning for teachers: Maximizing impact on learning*. New York: Routledge.;

Hattie, J., & Marsh, H. W. (1996). The relationship between research and teaching: A meta-analysis. *Review of Educational Research, 66*, 507–542;

Hattie, M., & Marsh, J. (2002). The relationship between productivity and teaching effectiveness. *Journal of Higher Education, 73*(5), 603-641.

12 See the "No Significant Differences Phenomenon" at http://www.nosignificantdifference.org/.

13 Cavanaugh, C. (2001). The effectiveness of interactive distance education technologies in K–12 learning: A meta-analysis. *International Journal of Educational Telecommunications, 7*(1), 73–88.

14 Cavanaugh, C., Gillan, K. J., Kromrey, J., Hess, M., & Blomeyer, R. (2004). *The effects of distance education on k–12 student outcomes: A meta-analysis*. Naperville, IL: Learning Point Associates. Retrieved March 13, 2012, from http://www.eric.ed.gov/ERICWebPortal/detail?accno=ED489533.

15 Means, B., Toyama, Y., Murphy, R., Bakia, M., & Jones K. (2009). *Evaluation of evidence-based practices in online learning: A meta-analysis and review of online learning studies*. Washington, DC: U.S. Department of Education. Retrieved March 20, 2012, from http://www2.ed.gov/rschstat/eval/tech/evidence-based-practices/finalreport.pdf.

16 Means, B., Toyama, Y., Murphy, R., Bakia, M., & Jones K. (2009). *Evaluation of evidence-based practices in online learning: A meta-analysis and review of online learning studies*, xviii. Washington, DC: U.S. Department of Education. Retrieved March 20, 2012, from http://www2.ed.gov/rschstat/eval/tech/evidence-based-practices/finalreport.pdf.

17 Ballas, F. A. & Belyk, D. (2000). *Student achievement and performance levels in online education research study*. Red Deer, AB: Schollie Research & Consulting. Retrieved March 13, 2012, from http://web.archive.org/web/20060623014418/http://www.ataoc.ca/files/pdf/AOCresearch_full_report.pdf;

Barbour, M. K. & Mulcahy, D. (2008). How are they doing? Examining student achievement in virtual schooling. *Education in Rural Australia, 18*(2), 63-74; Barbour, M. K., & Mulcahy, D. (2009). Student performance in virtual schooling: Looking beyond the numbers. *ERS Spectrum, 27*(1), 23-30;

Barker, K., Wendel, T., & Richmond, M. (1999). *Linking the literature: School effectiveness and virtual schools*. Vancouver, BC: FuturEd. Retrieved March 13, 2012, from http://web.archive.org/web/20061112102653/http://www.futured.com/pdf/Virtual.pdf;

Bigbie, C. & McCarroll, W. (2000). *The Florida high school evaluation 1999–2000 report*. Tallahassee, FL: Florida State University;

Cavanaugh, C., Gillan, K. J., Bosnick, J., Hess, M., & Scott, H. (2005). *Succeeding at the gateway: Secondary algebra learning in the virtual school*. Jacksonville, FL: University of North Florida;

Espinoza, C., Dove, T., Zucker, A., & Kozma, R. (1999). *An evaluation of the Virtual High School after two years in operation*. Arlington, VA: SRI International. Retrieved March 13, 2012, from http://ctl.sri.com/publications/downloads/evalvhs2yrs.pdf;

Kozma, R., Zucker, A., & Espinoza, C. (1998). *An evaluation of the Virtual High School after one year in operation*. Arlington, VA: SRI International. Retrieved March 13, 2012, from http://ctl.sri.com/publications/downloads/evalvhs1yr.pdf;

McLeod, S., Hughes, J. E., Brown, R., Choi, J., & Maeda, Y. (2005). *Algebra achievement in virtual and traditional schools*. Naperville, IL: Learning Point Associates.

18 Haughey, M. & Muirhead, W. (1999). *On-line learning: Best practices for Alberta school jurisdictions*. Edmonton, AB: Government of Alberta. Retrieved March 13, 2012, from http://web.archive.org/web/20040322033301/http://www.phrd.ab.ca/technology/best_practices/on-line-learning.pdf.

19 Clark, T., Lewis, E., Oyer, E., & Schreiber, J. (2002). *Illinois Virtual High School Evaluation, 2001-2002*. Carbondale, IL: TA Consulting and Southern Illinois University. Retrieved March 13, 2012, from http://www2.imsa.edu/programs/ivhs/pdfs/IVHS_FinalRpt.pdf.

Mills, S. (2003). Implementing online secondary education: An evaluation of a virtual high school. In C. Crawford et al. (Eds.), *Proceedings of Society for Information Technology & Teacher Education International Conference 2003* (444-451). Chesapeake, VA: AACE

Roblyer, M. D. & Elbaum, B. (2000). Virtual learning? Research on virtual high schools. *Learning & Leading with Technology, 27*(4), 58-61

Watkins, T. (2005). *Exploring e-learning reforms for Michigan: The new educational (r)evolution*. Detroit, MI: Wayne State University. Retrieved March 13, 2012, from http://web.archive.org/web/20051208000848/http://www.coe.wayne.edu/e-learningReport.pdf.

20 Barbour, M. K. (2009). Today's student and virtual schooling: The reality, the challenges, the promise... *Journal of Distance Learning, 13*(1), 5-25;

Barbour, M. K. (2010). Researching K-12 online learning: What do we know and what should we examine? *Distance Learning, 7*(2), 7-12;

Barbour, M. K. (2011). The promise and the reality: Exploring virtual schooling in rural jurisdictions. *Education in Rural Australia, 21*(1), 1-20.

21 Hubbard, B. & Mitchell, N. (2011). Online K-12 schools failing students but keeping tax dollars. *I-News Network*. Retrieved March 13, 2012, from http://www.inewsnetwork.org/special-reports/online-k-12-schools/;

Innovation Ohio. (2011). *Ohio e-schools: Funding failure; coddling contributors*. Columbus, OH: Author. Retrieved March 13, 2012, from http://innovationohio.org/wp-content/uploads/2011/05/IO.051211.eschools.pdf;

Joint Legislative Audit Committee. (2010). An evaluation: Virtual charter schools. Madison, WI: Legislative Audit Bureau. Retrieved March 13, 2012, from http://www.legis.wisconsin.gov/lab/reports/10-3full.pdf;

Office of the Legislative Auditor. (2011). *K-12 online learning*. St. Paul, MN: State of Minnesota. Retrieved March 13, 2012, from http://www.auditor.leg.state.mn.us/ped/pedrep/k12oll.pdf;

Ryman, A., & Kossan, P. (2011). The race to online: Arizona experiments with virtual K-12 schools. Will they work for your child? *Arizona Republic*. Retrieved March 13, 2012, from http://www.azcentral.com/news/education/online-school/.

22 Friedman, T. L. (2005). *The world is flat: A brief history of the twenty-first century*. London, England: Penguin Books.

23 Clarke, R. E. (1983). Reconsidering research on learning from media. *Review of Educational Research, 53*, 445-459.

24 There is an extremely broad literature addressing market force reforms in education and a significant, although smaller body, addressing centralization of governance. See for example,

Perelman, L. J. (1993). *School's out: Hyperlearning, the new technology, and the end of education*. New York: Avon;

Lubienski, C. (2003). Innovation in Education Markets: Theory and Evidence on the Impact of Competition and Choice in Charter Schools. *American Educational Research Journal, 40*(2), 395-443;

Lubienski, C. (2005). Public schools in marketized environments: Shifting incentives and unintended consequences of competition-based educational reforms. *American Journal of Education, 111*(4), 464-486;

Miron, G., Evergreen, S., & Urschel, J.L. (2008). *The impact of school choice reforms on student achievement*. Boulder, CO: National Education Policy Center. Retrieved June 20, 2011, from http://epsl.asu.edu/epru/documents/EPSL-0803-262-EPRU.pdf;

Bilfulco, R., Cobb, C. D., & Bell, C. (2009). Can interdistrict choice boost student achievement? The case of Connecticut's interdistrict magnet school program. *Educational Evaluation and Policy Analysis, 31*(4), 323-345;

Whitehurst, G. (2009, October 14). Don't forget curriculum. Providence, RI: Brown Center Letters on Education, #3. Retrieved February 11, 2010, from http://www.brookings.edu/papers/2009/1014_curriculum_whitehurst.aspx;

Mathis, W.J. (2010). *The "Common Core" Standards Initiative: An Effective Reform Tool?* Boulder and Tempe: Education and the Public Interest Center & Education Policy Research Unit. Retrieved March 14, 2012, from http://epicpolicy.org/publication/common-core-standards;

OECD (2010). PISA 2009 Results: Executive Summary. Retrieved March 14, 2012 from http://www.oecd.org/dataoecd/34/60/46619703.pdf;

CREDO (2009). Multiple choice: Charter school performance in 16 states. Retrieved March 16, 2012 from http://credo.stanford.edu/reports/MULTIPLE_CHOICE_CREDO.pdf;

Howley, C., Johnson, J., & Petrie, J. (2011). *Consolidation of Schools and Districts: What the Research Says and What It Means*. Boulder, CO: National Education Policy Center. Retrieved March 13, 2012, from http://nepc.colorado.edu/publication/consolidation-schools-districts.

25 Chatterji, M. (2010). *Review of "Closing the racial achievement gap: Learning from Florida's reforms."* Boulder, CO: National Education Policy Center. Retrieved March 13, 2012, from http://nepc.colorado.edu/thinktank/learning-from-florida;

Mathis, W. (2011). *Review of "Florida formula for student achievement: Lessons for the nation."* Boulder, CO: National Education Policy Center. Retrieved March 13, 2012 from http://nepc.colorado.edu/thinktank/review-florida-formula.

26 Watson, J., Murin, A., Vashaw, L., Gemin, B., & Rapp, C. (2011). *Keeping pace with K-12 online learning: An annual review of policy and practice*. Evergreen, CO: Evergreen Education Group. Retrieved March 13, 2012, from http://kpk12.com/cms/wp-content/uploads/KeepingPace2011.pdf.

27 Bathon, J. (2011). *Model legislation related to online learning opportunities for students in public elementary and secondary education schools*. Boulder, CO: National Education Policy Center. Retrieved March 13, 2012, from http://nepc.colorado.edu/publication/online-k-12-schooling.

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