

K-12 Online Education: What are the Policy Implications for Maryland?

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1.0 Introduction

Technology has become an increasingly important topic in K-12 education, especially as connectivity in the U.S. grows each year. A majority of the U.S. population has access to computers, mobile devices, and Internet services (Pew Research Center, 2010; Pew Research Center, 2014), and this increased access is permeating into schools. Public school districts are spending more money on digital services and venture-funded companies are rapidly increasing in number to provide these services (Burch & Good, 2014; Carolan & Murali, 2013). One new development is the rising adoption of online education in K-12 schools.

Online education refers to a diverse range of curricular and instructional activities that occur over the Internet. These activities can range from formal courses that are run using online platforms to educational materials that can be accessed online and used in the classroom. There are two critical ways that online education is impacting K-12 schools: (1) through the establishment of fully online schools (where entire courses are delivered online) and (2) through the use of online resources that change how K-12 classrooms are structured and how teachers design instruction (e.g. blended learning and other models).

Across the nation, states are passing policies to keep up with rapid advancements in learning technology and facilitate the use of digital tools in K-12 public education. At the same time district leaders and educators are struggling with understanding how to choose educational technologies and implement them effectively, all while dedicating larger expenditures to technology. News of technology implementation in K-12 districts are replete with cautionary stories, such as the Los Angeles Unified School District's (LAUSD) \$1.3 billion effort to equip every student with an iPad and software from Pearson, that have been fraught with ineffective planning and implementation (Blume, 2014). K-12 online schools – in particular cyber charter schools – have also been controversial over the past several years with charges of for-profit companies earning profits while not improving educational outcomes for students (Molnar, 2013).

As technology policy evolves in the state of Maryland, and as its school districts seek to integrate technology into teaching and learning, the state will need to develop policies to facilitate effective spending for and implementation of online education. In this policy brief, we identify the issues facing policymakers and offer suggestions for future policy initiatives. We argue that online education will play a central role in students' educational experiences in the coming years but whether online education reaches its full potential depends on how Maryland designs its policies. In particular, we argue that:

1. How Maryland decides to set policy to allow for online education for K-12 students will likely have direct consequences such as: (a) what providers enter the marketplace to serve districts and students, (b) what students actively choose and select online options, and (c) what learning experiences students have. **If governed poorly, K-12 online education can have negative consequences for students and the system. Implemented well, online education has the potential to enhance learning opportunities for students.**
2. The use of online curriculum and resources has great potential to change classroom practice and enhance learning experiences of K-12 students. However, implementation is key. We argue that Maryland has done well to establish aspirational goals and policy declarations for the use of technology in its schools – what we refer to as *hortatory* policies – but it is unclear how technology is expected to directly impact the state’s strategic goals for student learning. **We provide some conceptual frameworks and recommend that Maryland do more to directly link instructional and learning goals to technology use in K-12 classrooms; and reflect this linking clearly through policy mechanisms.**

In the following policy brief, we provide a summary of issues and national trends in K-12 online education followed by an overview of the various ways that Maryland has approached online education in K-12 schools. We then distill the lessons learned from past experiences, and provide suggestions for the decisions Maryland policymakers must grapple with as the state increasingly incorporates online education into the public school system in the future.

2.0 Online Education – What’s the Way Forward?

There is a lot of noise in discussions and debates about K-12 online education, with little clarity about the most salient issues. One reason that it is challenging to understand this growing trend is the sheer number of options that can occur under the banner of online education. Many options are possible such as:

- State-run virtual schools where K-12 students can enroll in online courses – e.g. the Florida Virtual School (Chingos & Schwerdt, 2014)
- Cyber Charter Schools, which are charter schools run by a variety of providers but offer a fully online experience (Huerta, Gonzalez, & d’Entremont, 2006)
- Cyber Charter Schools that serve individual districts, regions, or span across an entire state (Ahn, 2011)
- Schools that blend online curriculum and in-school experiences – e.g. blended learning (Staker & Horn, 2012)
- Schools that act as credit recovery opportunities for students who have fallen behind (Tucker, Dillon, & Jambulapati, 2011)

- Individual course experiences, offered by a mix of private or public entities, that students can take and receive credit in their local districts (Brickman, 2014)

Each of these examples, in addition to other online learning configurations that are possible, introduces their own set of questions. One set of questions concerns learning. It is quite well established in the research literature that whether a course is online or in a classroom *is not the causal reason for better or worse learning*. Instead the teaching and learning activities that actually occur (pedagogy) in any given setting are what is important (Clark, 1994). So what does teaching and learning look like in different online learning situations for K-12 students? What types of students are served best and which students falter in any given model? We actually know relatively little about these questions for K-12 students (Means, Bakia, & Murphy, 2014; Means et al., 2010).

A second set of questions involves policy and politics. We know that introducing online

education imposes governance, funding, and accountability challenges for K-12 schools. For example, students normally enroll in their neighborhood public school. Our funding and governance models are designed for this situation. When students enroll in online schools across geographic boundaries, how does the money follow the student and how do we govern these schools? Changing such student enrollment and funding mechanisms can cause deep conflicts between stakeholders such as districts, teacher unions, charter schools, and private vendors (Huerta, Gonzalez, & d'Entremont, 2006; Molnar, 2013).

The K-12 public school system is also designed for students to attend a physical school, with an entire set of curriculum and faculty embedded in that school. Online education allows for an unbundling of these resources. Students could theoretically take courses from a variety of online vendors, and public districts could hypothetically accept these credits (Brickman, 2014). In addition, it is unclear how to hold online schools accountable for student achievement, as aspects of the school experience are more distributed (e.g. across home and school) and often require changing teacher roles, increased participation of parents, or different configuration of resources (Ahn, 2011). Such changes to our education system will introduce drastic challenges in accountability, governance, and finance that states and public school districts will increasingly have to manage over time.

2.1 Trends in K-12 Online Education in the United States

We predict that pressure for using online education and other web-based resources will continue to rise across the nation and Maryland will soon have to consider whether to implement online options different from those currently available to students. Online education – in some form – will become a major factor in the delivery of K-12 education over the next several years. For example, the National Center for Education

Statistics (NCES) reports that in the 2002-03 school year, 36% of school districts had students enrolled in online courses; this grew to 55% in the 2009-10 school year (U.S. Department of Education, 2008). The NCES analysis reports that over 1.8 million K-12 students enrolled in some form of distance learning in 2009-10 (U.S. Department of Education, 2011).

Recent reports from trade organizations, advocacy groups, and think tanks also point to the rapid rise in online course taking in the K-12 sector. For example, Watson and colleagues (2014) report that in the 2013-14 school year, an estimated 315,000 students in 30 states participated in multi-district fully online schools. The states with the highest numbers of course enrollments were Florida and North Carolina, which had 377,508 and 104,799 course enrollments respectively.

NCES data suggests that online course came from a variety of sources including colleges, private vendors, and state virtual schools. Most districts (75%) did not develop any of the courses offered to students in their districts, and instead relied on outside vendors or suppliers. Maryland will likely deal with these trends as well, and must consider which vendors to allow and which types of courses students can enroll in. Moreover, many of the courses offered through online programs serve diverse student needs including: credit recovery, dual enrollment, Advanced Placement, career and technical education, and other academic courses including core courses and electives (U.S. Department of Education, 2011). As Maryland moves forward, we recommend that any new state policies directly target the needs of specific student populations and consider the effects of online education on these student populations.

2.2 How has Maryland Adopted K-12 Online Education?

Relative to other states, Maryland has not adopted many online educational options (Watson et al., 2014). In many ways, this situation is beneficial as Maryland can learn from the

experiences of other states before it dives deeper into its own implementation.

The state has primarily taken three strategies: (1) adopting supportive language about using online technologies in K-12 education (i.e. hortatory policy) and establishing the Maryland Advisory Council for Virtual Learning, (2) implementing a state-wide online course program called the Maryland Virtual Learning Opportunities Program, and (3) passing legislation to allow districts to establish their own virtual schools and providing mini grants to districts to adopt new technology.

Hortatory Policy and Councils. Maryland has adopted enthusiastic language supporting online education in many of its guiding policy reports such as *The Maryland State educational technology plan for the new millennium, 2007-2012* (2007); *Instructional technology: Accelerating Maryland's third wave of reform* (2011); and the state's 2010 federal Race to the Top Application. This is a common policy mechanism – termed hortatory policies – that sends a signal to the public that certain strategic goals (in this case online education and technology) are high priorities. However, as discussed further in section 3.1, hortatory goals are insufficient to improve learning, equity, or teaching practice. In general, the Maryland reports specify particular goals for the state, including:

- Preparing students for college and career readiness through increased access to quality resources and technology tools
- Improving educator proficiency with technology
- Achieving equitable access to technology including broadband access to everyone in the state
- Establishing a continual process of evaluation to track and assess progress

At this time it is unclear if any substantial policies, funding initiatives, or programs have been

established to implement the recommendations in these reports. There does not appear to be any publicly shared updates beyond these initial reports and the establishment of the Maryland Advisory Council for Virtual Learning (SB689) in 2012. The council is charged with submitting annual reports to the state superintendent about digital learning concerns and online learning implementation, although we could not easily locate publicly available reports on the MSDE website or through Internet searches.

Maryland Virtual Learning Opportunities Program. In the 2013-14 school year, Maryland reported 4,817 online course enrollments (Watson, et al., 2014). Much of this enrollment likely comes from Maryland's state online learning program, Maryland Virtual Learning Opportunities (MVLO). The MVLO was established by HB1197 (2002) and is managed by the Maryland State Department of Education (MSDE).

The MVLO provides districts access to supplemental content and online courses. MVLO currently allows more than 70 credit-bearing courses. Included in this catalogue of courses are 17 Advanced Placement courses that have been approved or conditionally approved for the 2014-15 school years, as well as 4 High School Assessment courses (Maryland Virtual Learning Opportunities, 2014a). Maryland defines a credit-bearing online course as one that meets state standards and is administered at least 80 percent online with the teacher and student separated by distance or time or both and in which two-way communication between the teacher and student is required.

MVLO works through local school districts, and is not a school itself. Students typically enroll in MVLO-approved courses by first approaching their guidance counselors and requesting enrollment in an online course. Counselors and school staff then determine the best course fit for the student and work through any required registration processes. Local districts are responsible for the learning

arrangement, recording of credits and grades, and any other implementation issues (Maryland Virtual Learning Opportunities, 2014b).

Local districts are also responsible for all course fees that pay for content, instructors, and delivery of the online course. Course costs range from \$15 per student per course for access to content owned or leased by MSDE to \$800 per student per course for a MSDE certified online instructor. One report has suggested that the average course fee per student is \$450-\$600 (Watson & Gemin, 2010). The MVLO website specifies that most MVLO classes shall be less than 20 students and may not to exceed 25.

MVLO's main role is to provide a central resource of information for students and districts, as well as facilitate the process for vendors to submit their online course for approval. Recent legislation has expanded responsibility for vetting courses, and now allows local education agencies (LEAs) to approve course vendors (SB674, 2012; COMAR 13A.04.15 Digital Learning, 2013). A vendor of an online course can submit their application to MVLO or they may work with a local district that can approve online courses. Course reviews include an assessment of the accessibility of the courses, as well as alignment with national standards, Maryland Common Core State Standards, Maryland Core Learning Goals, and MSDE instructional design standards. Vendors are required to pay MSDE \$1,400 per course review and an additional \$360 for final review. A local LEA may charge any fee they deem reasonable to conduct reviews of online courses, and must submit 15% of their fees to MSDE to cover the cost of the final review.

The MSDE also provides *Online Professional Development* (OPD) to teachers in the state. The program currently offers 26 professional development courses for instructors, many of which have a primary or secondary focus on online learning. OPD course costs range from \$170 to more than \$400. During the fall of 2014, two

courses were offered at a discounted rate of \$25. OPD was reportedly able to provide the "*Fall Specials*" at a discounted rate because of contributions from the state's federal Race to the Top grant (Maryland State Department of Education 2014b). It is unclear whether the state or local school districts provide additional funding to offset enrollment costs for teachers. According to the most recent enrollment statistics released in 2009, fewer than 600 teachers had enrolled in a state-offered online professional development course. Though still relatively small, this number was a marked increase from the 336 teachers that participated in state-offered OPD courses in 2005.

Recent Developments Related to Educational Technology in Maryland. Recent legislation has expanded opportunities for local districts to develop online programs. HB1362 (2010) authorized school districts to establish fully online, virtual public schools under the approval of MSDE. However, the policy did not include any financial appropriations for districts that do so, and no district has developed any virtual schools as of this writing.

Maryland does not allow online charter schools in the state, in comparison to other states such as Ohio and Pennsylvania that do allow these school forms. This policy development is largely due to charter school regulations that require students to attend a physical school (and thus no fully online charter schools). However, Maryland provides an option for charter schools to create "blended" models where students attend a physical school but experience a substantial portion of their curriculum through online courses. The College Park Academy (<http://collegeparkacademy.com/>), which is run by the Pearson subsidiary Connections Education, is an example of a blended charter school.

Former-governor Martin O'Malley also led the creation of the Digital Learning Innovation Fund, which provides Maryland schools with grants to aid in the transition towards comprehensive

digital learning (Office of Governor Martin O'Malley, n.d.). The Digital Learning Innovation Fund is administered by MSDE and provided \$3.5 million in grants to Maryland schools in the 2013-2014 school year and another \$3.5 million in the 2014-15 school year (276 HB 100, 2014; Maryland State Department of Education, 2014b). Funded projects in the 2013-14 school year included (Maryland State Department of Education, 2013):

- Expanding blended learning English Language Arts programs in three elementary schools (Baltimore County Public Schools)
- Purchasing Discovery Education Science Techbooks (Carroll County Public Schools and Kent County Public Schools)
- Expanding project based learning opportunities in English Language Arts and science curriculum for 13 middle schools (Frederick County Public Schools)
- Building a telepresence project in which teachers can broadcast courses and interact with teachers at other schools through video conferencing equipment (Garrett County Public Schools)
- Creating a comprehensive digital learning hub (SEED School of Maryland)
- Expanding the iWrite program through technology to help improve literacy rates for more students (Washington County Public Schools)

3.0 Next Steps and Policy Implications for the State

How does Maryland's experiences compare to other states, and what might Maryland policymakers and educators expect on the horizon? Some reports suggest that Maryland has lagged behind others in allowing for a wide range of online learning options for students and advocating for larger funding support for online programs (Watson & Gemin, 2010). Several other states provide more online delivery options than are available in Maryland. For example, Florida offers a state-run virtual school while other states

allow private providers to establish online charter schools.

However, a slow and steady approach has helped Maryland to avoid many of the issues plaguing other states that have more fully experimented with other forms of online education, such as cyber charter schools, which have been controversial in states such as Ohio and Pennsylvania (Ahn & McEachin, 2015; Huerta et al., 2006).

Nevertheless, if Maryland decides to move beyond what it has done thus far with technology, there are several issues the state will need to address. While online education was a niche topic in years past, it will become front and center in many education debates in the coming years. What are some lessons learned, and how can policy makers in Maryland prepare for the future?

3.1 Align technology goals with clear instructional goals, and move beyond hortatory policy alone.

The state has a set of aspirational policy documents that highlight the link between technology and strategic goals for student learning, teacher proficiency, and equitable education. These goals are outlined in *The Maryland State educational technology plan for the new millennium, 2007-2012* (2007) and *Instructional technology: Accelerating Maryland's third wave of reform* (2011). However, we observe some limitations that need to be addressed in the coming years.

The theories of action outlined in these documents assume that *access to technology* will lead to improved educational outcomes. Many of Maryland's initiatives such as MVLO are geared towards providing an infrastructure of access by offering a repository of available courses, but leaving the details of implementation unspecified and vague. A wide body of research in education and learning sciences shows that merely purchasing hardware, software, Internet access, and building repositories of available online

courses **is not sufficient** to enact equitable improvements to schools or classrooms. We support calls to ensure that students across the state have access to current computing tools and broadband Internet. However, policymakers need to support educators' ability to develop clear theories of action about **how** the use of a specific technology will positively impact specific **student learning outcomes**. These theories should be research-based.

Many fiascos concerning education technology, such as LAUSD's iPad initiative (Blume, 2014), occur because leaders focused on access (e.g. purchasing hardware, software, and content) as the central driving concern. Instead, successful districts often begin with a very specific instructional focus – such as increasing small group instruction in classrooms – and then strategically use technology to achieve these goals, for example, by employing blended learning models (Ahn & McEachin, 2015). Without laying out clear goals and guidelines for the use of technologies in schools and classrooms, attempts to leverage technology to improve student learning, enhance teacher proficiency, and achieve equitable education are not likely to be successful.

A next step for the state would be to develop specific strategic goals for technology use in K-12 education that are linked to targeted learning outcomes for students. For example, the state's role in crafting initiatives such as the Digital Learning Innovation Fund, and the language it uses to solicit district applications, plays a large role in linking strategic goals and technology implementation. Broad funding mandates – e.g. to buy computers or experiment with blended learning broadly defined – are less likely to show a direct, statewide impact. To better align the use of technology with specific strategic goals, the state might encourage districts to adopt technology to increase individualized instructional time between student and teacher, or allow a targeted student population (e.g. low-income students in urban schools) to enroll in typically unavailable courses

through online vendors. Local districts and educators can make instructional decisions that make sense for their contexts, but state-level policy helps guide these implementation decisions toward achieving specific strategic goals.

These are just a few illustrative examples. The critical point is that funding support should be targeted, specific, and tied to clearly measurable improvements that can be tracked over time.

3.2 Decide what the role of online education should be for Maryland.

There are many different ways that state policy can allow for online learning in K-12 education, and numerous strategies to ensure accountability and effective practice. However, any policy decision can have both positive and negative consequences. If we are serious about using online technologies to enhance K-12 teaching and learning, we must also delve into the very complex policy structures needed to effectively implement online learning.

Maryland will have to make particular decisions about whether and how to open up the online learning marketplace to private vendors, and whether to promote fully online schools that serve the whole state or continue district-focused strategies. How a state sets policy and regulates these decisions play a substantial role in structuring what local education agencies and schools do on the ground. Expanding the supply of online vendors may offer richer choices and wider access to students, but this strategy also creates new challenges. For example, the creation of online charter schools raises many policy issues, including how to approve these schools, hold them accountable, shift public funding to these schools, handle enrollment, and ensure that students are served well (Ahn & McEachin, 2015; Huerta et al., 2006).

Maryland has taken a different approach. The MVLO acts as a repository of individual online courses, and local districts take on full

responsibility to implement individual courses and enroll students. Using this approach, the state acts as a gatekeeper. On the one hand, Maryland may be better able to regulate the quality of online courses (a positive feature). On the other hand, by providing little funding support and incentive for districts to adopt online learning, there is slower adoption and little experimentation.

Maryland has moved in recent years to slowly expand options by allowing districts to approve courses and create their own virtual schools. As districts move to diversify their course offerings, educators, parents, and students will also be faced with a complex array of choices. Ensuring that districts' decisions about course offerings are of high quality and effective for specific students is a substantial issue that will become more pressing in the future. Furthermore, it is unclear whether district-created virtual schools would be open to other districts, how enrollment across geographic boundaries will be handled, and how funding will transfer as students enroll in a wider variety of course and school options. These are all issues that require careful planning by state policymakers and educational leaders.

3.3 Supporting teachers is key, but learn about what they need.

A fundamental factor in successful technology implementation in classrooms is the buy-in and capacity of teachers. Maryland's guiding document, *Instructional technology: Accelerating Maryland's third wave of reform* (2011), identifies teacher professional development and proficiency with technology as a major strategic goal. We agree that this goal will become more important in the coming years. However, it is unclear what teachers experience in their schools, what resources they have to work with, and what proficiencies and skills they need to better integrate technology into practice.

The MSDE has periodically conducted surveys of technology *infrastructure* (e.g. how many

computers a district has, what Internet connection they serve, what software is available etc.), but we recommend that the state begin to invest in annual surveys of teachers to better assess what experiences they are having using technology and what needs may emerge in a given year. Past surveys have focused on hardware and software. We instead would like to see the state survey teachers' perceptions of the resources they have, the skills they possess and those they wish to develop, and ideas about desirable trends in educational technology from educators themselves.

An annual survey may also aid in helping the state with our first recommendation – developing clear guidelines about how to link technology implementation to specific, strategic learning goals for students.

3.4. Create a system of continual research, data analysis, and data driven practice.

Finally, we observe that data collection and evaluation of educational technology in Maryland has been somewhat sporadic. Nonetheless, Maryland has an infrastructure in place – particularly with the inception of the Maryland Advisory Council for Virtual Learning – to facilitate dialogue about how the state should evolve with technology. We suggest a deeper partnership with researchers in Maryland to conduct rapid, periodic (e.g. annual or quarterly) data collection and analysis on high impact questions for the state. The data analyses could then be used to drive key decisions about programs, funding, and implementation that would be highly targeted to improve different aspects of the system.

This vision of a researcher-practitioner partnership (RPP) is becoming popular across the United States (Penuel, et al., 2011), and such a partnership would be highly beneficial in the area of technology and education in Maryland.

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About the Maryland Equity Project

The Maryland Equity Project seeks to improve education through research that supports an informed public policy debate on the quality and distribution of educational opportunities. It conducts, synthesizes, and distributes research on key educational issues in Maryland and facilitates collaboration between researchers and policymakers. The Maryland Equity Project is a program in the Department of Teaching and Learning, Policy and Leadership in the College of Education at The University of Maryland.

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