



Technology and the Quest for Personalized Education

Comparing Blended Learning and Full-Time Virtual Education



Policy Brief

February 2017

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Technology and the Quest for Personalized Education

Comparing Blended Learning and Full-Time Virtual Education

The effective use of technology in Texas public schools has the potential to transform teaching and learning. Currently, there are two primary models for using technology to drive personalization in education: full-time virtual schools and blended learning programs. While both approaches promise to personalize instruction to improve student achievement, several studies have shown consistent and widespread poor performance in full-time virtual schools.^{1,2,3} Blended learning, however, utilizes teachers' in-person observations and knowledge of student learning to guide the use of technology in the classroom. This brief outlines the differences between full-time virtual schools and blended learning programs and offers evidence as to why blended learning presents the more advantageous strategy with the potential to benefit a greater number of students.

Defining Blended Learning and Full-time Virtual Schools

Blended learning combines face-to-face teacher instruction with online technology to achieve student-centered learning. Blended learning takes place when students learn at least in part online, with some element of student control over the time, place, path, and/or pace of their learning, while also enjoying the benefits that come with education at a brick-and-mortar school.⁴ Blended learning is student-centered—both personalized, tailored to an individual student's particular needs, and competency-based, enabling students to advance after mastering a given subject. Blended learning students may take some individual online courses, but their entire curriculum is not provided by virtual means.

A full-time virtual school is “a formally constituted organization (public, private, state, or charter) that offers full-time education delivered primarily over the Internet.”⁵ Virtual schools in Texas provide full-time online learning to public school students in grades 3 through 12 through the Texas Virtual School Network, operated by the Texas Education Agency. Host districts and charters typically contract with non-profit and for-profit private providers for curriculum and teaching staff. In Texas, currently less than half of a percent of public education students are enrolled in full-time virtual schools.⁶ For purposes of this brief, a full-time virtual student would take all of his or her courses online.

How Blended Learning Differs from Full-time Virtual Schools

Physical versus online-only experience

At the most basic level, blended learning and full-time virtual schools diverge in their definition of where a student learns. Blended learning differs from full-time virtual schools because while blended learning incorporates online learning, it does not rely solely on it.

Students in blended learning programs always attend a brick-and-mortar school and therefore receive direct support from a teacher of record. In a blended learning program, online coursework may be foundational to learning, but it never makes up the whole experience for a student. In full-time virtual schools the opposite is true; students learn entirely online and there is no requirement for students to attend any in-person learning experience with a teacher.⁷

Role of technology in instruction and learning

Beyond the clear differences in *where* students learn, blended learning and full-time virtual schools also differ in *how* students learn. Blended learning programs integrate in-person instruction and technology as tools to advance deeper learning and better meet the needs of more students, whereas full-time virtual schools exist to provide some students the opportunity to learn away from a physical school in a virtual environment. Specifically, in blended learning programs technology provides teachers more flexibility to restructure their classrooms and design new ways to teach and learn. Adaptive online software lets students access content at their current level that adjusts to their pace, and teachers have more opportunities to work with

students in-person using one-on-one instruction targeted to each student's needs. Therefore, while both blended learning and full-time virtual schools promise the use of technology to transform a student's experience, blended learning moves beyond simply the incorporation of online learning to present a strategy for how technology can be used to improve student achievement.

Providing students with personalized instruction and one-on-one support

Students in full-time virtual schools "have less synchronous instructional time in a week than students in a brick and mortar school have in a day"; most virtual schools reported the median amount of time students spent in synchronous instruction is less than six hours per week.⁸ This reduction in synchronous instruction time does not, however, lead to an increase in individualized instruction from a teacher. In fact, students in virtual schools have less one-on-one instruction time with a teacher; the median amount of time students in virtual schools spent in one-on-one instructional time was reported to be 45 to 60 minutes per week.⁹ This may be due in part to the larger class sizes typically found in full-time virtual schools¹⁰ or perhaps because online teachers are limited in their ability to provide immediate assistance when the majority of student learning occurs remotely and at varying times throughout the day and night.

Because blended learning takes place in a physical school in close proximity to a teacher, students have increased opportunities for personalized instruction coupled with in-person one-on-one support. While both full-time virtual

	Blended learning	Full-time virtual schools
Definition	Students learn at least in part online, with some element of student control over the time, place, path, and/or pace of their learning, while also enjoying the benefits that come with education at a brick-and-mortar school.	A formally constituted organization – either public, private, state, or charter – offering full-time education delivered primarily over the Internet.
Physical schools	Required.	Optional.
Role of technology	Technology <i>plus</i> in-person teacher instruction.	Virtual environment <i>only</i> .
Non-academic skills	Students benefit from social experiences at school with peers and teachers.	Students do not typically participate in social experiences of a school campus.
Academic performance	Supports personalized learning and competency-based education at scale, two instructional approaches shown to positively affect student achievement.	Poor academic outcomes; 89 percent of full-time online school students were enrolled in a virtual school that did not meet state standards.
Scalability for more students	Allows for different learning approaches that meet the individual needs of many students.	Shown effective primarily for highly self-motivated students or students with highly engaged parents.

schools and blended learning can provide personalized content to students through adaptive software, in blended learning programs teachers can maximize their expertise while they are face-to-face with students by strategically using real-time data in personalized instruction to meet students' individual needs. For example, in blended learning classrooms, a teacher may group students multiple times throughout the school day based on her data and observations. Students might work together in small groups, on online content at their individual learning level, or one-on-one with their teacher on topics they are struggling to understand. In the same class, students who have already mastered a concept may move ahead to more advanced material and receive individual teacher instruction that supports their personalized learning goals.

Non-academic skills: social interaction and engagement

A critical component of blended learning is that it does not eliminate face-to-face interaction among students and teachers. Blended learning takes into consideration the need for students to interact socially with their peers at school. Because full-time virtual schools do not require in-person learning, students enrolled in these schools do not typically benefit from face-to-face interaction with teachers and peers, nor do they participate in the social experiences that occur at school. As a result, many full-time virtual schools have recognized this challenge and consequently transitioned their programs to blended learning models in order to provide students with the important experiences of a school campus.¹¹

Academic Performance and Accountability

Full-time virtual schools have poor academic results, despite years of implementation. In Texas in 2015-16, the vast majority, 89 percent, of full-time online school students were enrolled in a virtual school that did not meet state standards under the standard accountability system.¹²

Additionally, one national study found when compared to students attending traditional public schools, students attending full-time virtual schools showed significantly lower academic growth.¹³ For the average student this equates to 180 fewer days of learning in math and 72 fewer days of learning in reading, over a period of 180 school days.¹⁴

Nationally, researchers agree additional work is necessary to determine how blended learning can be implemented most successfully; however, there are several early studies that point to its promise.^{15,16,17,18} While the field of blended learning research is still emerging, broader research has shown that the type of instruction blended learning supports – personalized learning and competency-based education – can improve student outcomes.^{19,20,21} Since blended learning leverages technology as a tool to achieve both personalized and competency-based learning, this allows proven pedagogical strategies to be implemented in more classrooms for a greater number of students.²²

Blended Learning: A Scalable Solution for More Students

Full-time virtual schools assume all students learn better in a fully online format, but blended learning allows for different learning approaches that meet the individual needs of each student.

Studies have shown that the type of students who are most successful in full-time virtual schools are those who excel in self-paced environments, or those who have engaged parents with the time to monitor their child's progress.²³ Assuming only highly motivated students with highly engaged parents can succeed excludes entire groups of students from enrolling in full-time virtual schools, and is therefore an inequitable model for schools operating using public funds.

Researchers have also found that while the number of online courses students enroll in will continue to rise, the number of students who will be either homeschooled or enrolled in full-time virtual schools to take these courses will plateau at about 10 percent.²⁴ This estimate is based on the finding that the majority of children still require supervision away from home to learn while their parents work or fulfill other responsibilities.²⁵ This research supports the continued importance of brick-and-mortar schools for the majority of the student population. Because blended learning programs can be incorporated into already existing school campuses, many more students – not just those with highly engaged parents – can equally benefit from technology and online learning while receiving in-person support from teachers.

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