



## Introduction

In light of the Coronavirus Disease 2019 (COVID-19) pandemic, districts across the country are exploring options for expanding online learning opportunities for students as a way to ensure access to lessons and educational materials during extended school closures. To support districts in exploring online learning options, Hanover Research (Hanover) prepared the following research review. This review includes links to prior Hanover reports as well as recent resources examining outcomes of online learning and best practices for implementing online learning. To provide districts with the most up-to-date information, this report draws on publicly available resources published since 2015.

## Reports from the Hanover Research Library

Report	Summary
<a href="#"><u>Best Practices for Flexible Instructional Days</u></a> <i>October 2019</i>	This brief reviews best practices for implementing flexible instructional days, also known as e-learning, virtual learning, and remote school days. The brief identifies common challenges districts and schools face as well as potential solutions. Additionally, the brief identifies examples of districts and schools that have implemented flexible instructional days.
<a href="#"><u>Best Practices in Building a Digital Learning Environment</u></a> <i>August 2017</i>	This report provides best practices to support strategic planning for a variety of digital learning initiatives. The report includes resources on planning for 1:1 device environments, personalized learning, and digital learning platforms.
<a href="#"><u>Effective Models for K-12 Virtual Schools</u></a> <i>January 2017</i>	This report examines the benefits and drawbacks of K-12 virtual schools. The report highlights trends in virtual school education as well as the research base regarding online learning and student outcomes. Finally, the report profiles four prominent virtual school vendors that provide comprehensive virtual school curricula that can be tailored by districts.
<a href="#"><u>Best Practices in K-12 Online and Hybrid Courses</u></a> <i>August 2015</i>	This report outlines best practice approaches in high-quality online courses for K-12 students, profiles exemplary district-level online programs, and details the elements of the online learning options offered to secondary students.
<a href="#"><u>Review of Web Accessibility and Compliance Standards</u></a> <i>December 2019</i>	To support districts in reviewing web content accessibility for public- and internal-facing communication, this document reviews federal standards and specific requirements for K-12 districts for web accessibility, as well as recent changes in the Web Content Accessibility Guidelines.

## Resources to Support the Implementation of Online Learning

Resource Title	Publication	Summary
<a href="#">Building Better Courses: Examining the Construct Validity of the iNACOL National Standards for Quality Online Courses</a>	Journal of Online Learning Research 2016	This study reviews the alignment of the iNACOL National Standards for Quality Online Courses with best practices identified in the secondary literature and recommends areas for improvement related to the consolidation of redundant standards.
<a href="#">Redesigning Design: Field Testing a Revised Design Rubric Based on iNACOL Quality Course Standards</a>	International Journal of E-Learning & Distance Education	This study presents a revised framework for evaluating online coursework based on the iNACOL Standards and tests its use in evaluating existing online courses.
<a href="#">Administrator Guide to Online Learning</a>	Michigan Virtual Learning Research Institute	This guide provides resources for school administrators to support online learning.
<a href="#">Student Perceptions of Online Teacher and On-Site Facilitator Support in Supplemental Online Courses</a>	Online Learning 2019	This study uses surveys and focus groups to explore students' perceptions of support from online and in-person teachers in online coursework. Students provided more positive ratings of support from in-person facilitators than online teachers.
<a href="#">Learning to Serve Students with Disabilities Online: Teachers' Perspectives</a>	Journal of Online Learning Research 2018	This study examines strategies teachers report using to support students with disabilities in online courses.
<a href="#">Supporting Students with Disabilities in K-12 Online and Blended Learning</a>	Michigan Virtual Learning Research Institute 2018	This report provides recommendations to support students with disabilities in online learning environments.
<a href="#">National Standards for Quality Online Courses</a>	Virtual Learning Leadership Alliance and Quality Matters 2019	These standards provide guidelines for developing effective online courses. The standards also can be used to evaluate courses provided by external vendors.
<a href="#">National Standards for Quality Online Programs</a>	Virtual Learning Leadership Alliance and Quality Matters 2019	This framework sets program-level standards for effective online learning aligned with the National Standards for Quality Online Courses.
<a href="#">A Snapshot of Successful K-12 Online Learning: Focused on the 2015-16 Academic Year in Michigan</a>	Journal of Online Learning Research 2019	This study uses data from online schools in Michigan to identify student engagement patterns that promote success in online courses.
<a href="#">Access and Accessibility in Online Learning: Issues in Higher Education and K-12 Contexts</a>	Online Learning Consortium 2018	This report reviews the secondary literature on ensuring that online courses are accessible for students with disabilities.

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<a href="#"><u>Online Student Perceptions of the Need for a Proximate Community of Engagement at an Independent Study Program</u></a>	<b>Journal of Online Learning</b> 2016	This study examines the role of in-person collaboration in supporting high school students' success in online coursework. Using a survey of students enrolled in online courses, the authors find that students often receive support from parents, teachers, and counselors and recommend that teachers of online courses coach students to seek in-person support.
<a href="#"><u>Developing and Implementing Instrumentation for Digital High School Curricula: A Regional Study of a Rubric for Instructional Quality</u></a>	<b>Athens Journal of Education</b> 2018	This article discusses a rubric developed by a consortium of school districts in Ohio to evaluate online course curricula.
<a href="#"><u>School Board Guide to Online Learning</u></a>	<b>Michigan Virtual Learning Research Institute</b> 2018	This guide provides resources to support school boards in overseeing online learning, including information on effective student supports.
<a href="#"><u>Snapshot 2019: A Review of K-12 Online, Blended, and Digital Learning</u></a>	<b>Digital Learning Collaborative</b> 2019	This report examines recent trends related to online learning, including online courses and other strategies that use digital resources to support learning. The report includes case studies of fully-online schools and online courses offered by school districts across the United States.
<a href="#"><u>Online Education and Its Effective Practice: A Research Review</u></a>	<b>Journal of Information Technology Education</b> 2016	This article reviews prior empirical research examining online learning to identify general best practices for online courses in both K-12 and higher education. The authors identify three essential elements of effective online instruction: well-designed content and qualified instructors, a sense of community among students, and effective technology.
<a href="#"><u>Future Ready Learning: Reimagining the Role of Technology in Education</u></a>	<b>Office of Educational Technology, US Department of Education</b> 2016	This report reviews trends and best practices for a variety of technology-related learning strategies, including online courses. The report addresses teaching, leadership, assessment, and infrastructure to support technology-enhanced learning.
<a href="#"><u>Interaction, Student Satisfaction, and Teacher Time Investment in Online High School Courses</u></a>	<b>Journal of Online Learning Research,</b> 2019	This study examines teachers' interactions with students in an online course using student evaluation surveys and communication logs maintained by the course software. The study finds that teachers report more interaction than students due to the investment of time required to contact disengaged students.

## Resources Related to Teachers of Online Courses

Resource Title	Publication	Summary
<a href="#"><u>Job Satisfaction, Organizational Commitment, and Turnover Intention of Online Teachers in the K-12 Setting</u></a>	Online Learning 2016	This study uses teacher surveys and focus groups to identify factors that predict teacher turnover in online learning environments. The authors recommend that school leaders ensure stable compensation for online course teachers and create opportunities for in-person collaboration.
<a href="#"><u>Retaining K-12 Online Teachers: A Predictive Model for K-12 Online Teacher Turnover</u></a>	Journal of Online Learning Research 2018	This study surveys teachers in online schools regarding their plans to continue teaching in an online environment. The authors recommend that schools implement an onboarding program with a mentoring component for new online teachers to improve teacher retention.
<a href="#"><u>An Analysis of the Curriculum Requirements for K-12 Online Teaching Endorsements in the U.S.</u></a>	Journal of Online Learning Research 2016	This study reviews curricula at universities offering online teaching endorsements as well as state requirements for online teaching certification. The authors recommend that online teaching certification programs increase the amount of content related to ethics and privacy in online learning environments.
<a href="#"><u>Mentor Fundamentals: A Guide for Mentoring Online Learners</u></a>	Michigan Virtual Learning Research Institute 2017	This guide provides resources to support teachers serving as in-person mentors for students enrolled in online courses.
<a href="#"><u>National Standards for Quality Online Teaching</u></a>	Virtual Learning Leadership Alliance and Quality Matters 2019	This framework outlines standards for effective instruction in online learning environments aligned with the iNACOL National Standards for Online Courses.
<a href="#"><u>Generic vs. Modality-Specific Competencies for K-12 Online and Blended Teaching</u></a>	Journal of Online Learning Research 2018	This study reviews teaching quality standards developed for in-person, online, and blended learning environments. The authors conclude that most elements of effective teaching are applicable across learning environments and suggest that teacher preparation programs incorporate information on online learning environments into their curricula.
<a href="#"><u>Standards-Based Design: Teaching K-12 Educators to Build Quality Online Courses</u></a>	Journal of Online Learning Research 2016	This study examines a professional development program to support teachers in designing online courses. The study finds that professional development was successful in supporting teachers in designing standards-aligned online courses.
<a href="#"><u>Teacher Guide to Online Learning</u></a>	Michigan Virtual Learning Research Institute 2017	This guide provides resources to support teachers working in online learning environments.
<a href="#"><u>Training for Online Teachers to Support Student Success: Themes from a Survey Administered to Teachers in Four Online Learning Programs</u></a>	Journal of Online Learning Research 2016	This study surveys teachers of online courses regarding their professional development needs. The authors recommend providing teachers in online programs with personalized professional development that includes practice-based experiences.

## Caveat

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