K-12 Online Learning Research: 2018 Trends from Peer-Reviewed Literature

Introduction

The purpose of this review of research is to provide resources to inform Quality Matters' interest in quality assurance for online courses at the K-12 level. These efforts naturally include concerns with teaching and course design. This review includes a short summary of the relevant peer-reviewed literature published in 2018, followed by an alphabetical listing of the resources correlated to the Quality Matters (QM) Standards (See table 1). This review also includes a listing of additional sets of standards and abstracts from resources (See table 5). Finally, this review includes discussion about how QM Standards might be clarified or revised.

Table 1

QM Standards for Reference

Standard	Name	Description
1	Course Overview and Introduction	The overall design of the course is made clear to the learner at the beginning of the course.
2	Learning Objectives (Competencies)	Learning objectives or competencies are measurable and clearly stated. They assist learners in focusing their effort in the course.
3	Assessment and Measurement	Assessments are integral to the learning process and are designed to evaluate learner progress in achieving the stated learning objectives or mastering the competencies.
4	Instructional Materials	Instructional materials enable learners to achieve stated learning objectives or competencies.
5	Learning Activities and Learner Interaction	Learning activities facilitate and support learner interaction and engagement.
6	Course Technology	Course technologies support learners' achievement of course objectives or competencies.
7	Learner and Instructor Support	The course materials include support services essential to learner and instructor success. Course instructions articulate or link to relevant information and services.
8	Accessibility and Usability	The course design reflects a commitment to accessibility and usability for all learners.

Methodology

Primary review activities were conducted January 4 through June 15, 2019, by Mary Rice, under the direction of the QM staff, Manager of Research and Development Barbra Burch and Director of Research Kay Shattuck.

Defining Terms

Strategies for conducting the review included searching databases for articles about online learning across a broad range of contexts. A list of keywords associated with online learning and special education formed the initial search terms. These terms are similar to those used by Rice and Dykman (2018) in their review of literature for the *Handbook of Research on K-12 Online and Blended Learning*. We also used within-database thesauri and indices for further refinement of terminology and to generate synonyms. Search terms appear in Table 2.

Table 2

Initial Search Terms

Online Learning	Higher Education	K-12	Environment	Anticipated Topics
Virtual school(s), virtual classrooms, cyber school(s), distance education, online learning, online instruction, cyber school, e-learning, Internet coursework, web-based instruction	College, institution, higher education, post-secondary, technical, tertiary, university, vocational	K-12, elementary, secondary, public school, charter school, private school, homeschool, grade school, high school, adolescent, child	Fully online, supplemental, credit recovery, blended learning (environment), hybrid, modern learning environment(s)	Accessibility, attrition, persistence, achievement, teacher preparation, teacher training, accommodation, modification, media, legalities, policies, literacy, satisfaction, engagement, technology, parents, perceptions, experiences, roles,

				professional development

Searching Databases

Identified terms (See table 2) were used to search the databases with the advanced search function, toggling search fields ranging from "subject headings" to "keywords" to "all text." Some databases were searched using Boolean Operators (AND, OR, NOT), though often these functions were employed automatically by the advanced search function within the database (See table 3).

Table 3

Types and Names of Searched Databases

Type of Database	Names of Databases
Government	ERIC, EBSCO
Journal	*American Journal of Distance Education, International Journal of Open and Distance Learning, Journal of Online Learning Research, Journal of Special Education Technology, Online Learning*
Public	Academia.edu, Google Scholar, ResearchGate
Private	Academic Search Complete, Quality Matters Research Database, SAGE Journals Online, Psych INFO

Additional Search Constraints and Exclusion Criteria

Additional constraints were applied to returned search results. Articles that were not already in the QM Research Library database (https://www.qmprogram.org/qmresources/research/) were added. These constraints included a restriction by year (2018-Present) and by article type (peer-reviewed academic journal). Articles that focused on digital learning but were not necessarily part of an online learning program were excluded. Although government reports were not included in the review, reports published within the last decade containing reference sections were searched for potentially relevant articles.

We acknowledge that a dissertation can be argued as a peer-reviewed document since members of a committee assist in the project and focus on dissertations in the report, *K-12 Online Learning Research: 108 Trends from Dissertation Research*. A separate report has been prepared documenting findings from dissertations.

We also understand that resource centers such as the Michigan Virtual Learning Research Institute and the Center on Online Learning and Students with Disabilities engage in levels of in-house and even some external review for their sponsored publications. Even so, we also did not include work done by these or similar organizations posted on their websites *unless* that work appeared in a double-blind, peer-review journal. Likewise, we did not include conference papers, such as those from the Association for the Advancement of Computing (AACE), although we did include articles from AACE-sponsored journals that fit our criteria.

Articles in peer-reviewed journals that were not empirical in nature (i.e., not driven by a research question, methods/strategies, and findings) were not reviewed. However, we did locate as many of these types of texts as possible so that we could search their bibliographies and reference sections for studies that were empirical. We included reviews of literature that demonstrated empirical approaches (explicit purposes or questions, methodology of search, analytic techniques, discussion of review findings).

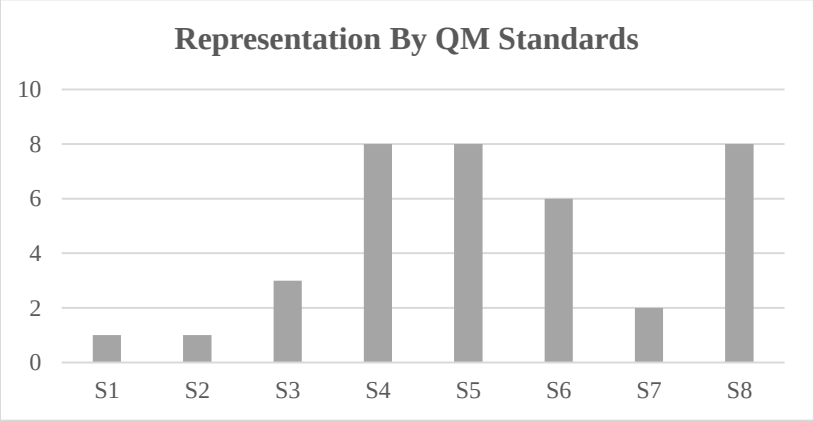
We also searched the bibliography and reference sections of each peer-reviewed empirical journal article we located looking for additional articles. When we found an article that was from a journal with which we were unfamiliar we searched the journal to try to verify that there was a review process mentioned in the journal's mission and that there was a review board associated with the journal. At the end of this process, 21 articles were identified.

Findings

Twenty-one articles were assigned at least one of the QM Standards when they were entered into the database. Some articles had multiple standards assigned. The reviewers did not complete an independent check of the accuracy of these contributor-assigned designations. Standards were represented 31 times with Standards 4, 5, and 8 with the most representations (See table 4). Two articles were located on the topic of K-12 online learning, which could *not* be well-fitted to a standard. These are discussed separately at the end of this section.

Table 4

QM Standards Assigned by Contributors



In addition to the standards, studies were grouped into themes based on study topics, research populations, and empirical aim. Table 5 contains a list of all the studies with authors, standards, and a summary of the study, condensed from the abstracts. Descriptions of major themes appear below. A few of the articles represented more than one theme.

Pedagogical Understanding for Online Learning

Nine of the 21 articles addressed pedagogical understandings in some form. Most of these understandings were directed at teachers, but two of the articles focused on course designer knowledge as being distinct from teaching (Adelstein & Barbour, 2018; Rice, 2018). In

Adelstein and Barbour's (2018) work, they critiqued the *National Standards for Quality Online Courses* and then field-tested a rubric designed to better meet the standards. Their work provided some guidance for the subsequent refresh of the standards currently underway as a joint effort of *QM* and the *Virtual Learning Leadership Alliance*. Rice (2018) did not do standards work. Rather, Rice followed course designers through the process of creating an Algebra II course and documented the team's attempts to make courses more accessible. She highlighted accessibility as it emerged through the development of objectives, plans for personalization, and access to information through multiple modalities. Her study highlighted the problems with focusing primarily on students and—to some degree—on teachers in online course design when there are additional users, such as parents or other on-site mentors, whose needs are not prominently represented in the current QM Standards.

The other seven articles on this topic focused on helping outline teacher knowledge and competencies (Pulham & Graham, 2018; Pulham, Graham, & Short, 2018) and also documented ways to help teachers learn to create curriculum materials and teach content online (Al-Harthi, Campbell, & Karimi, 2018; Crouse, Rice, & Mellard, 2018; Evmenova, 2018; Griffin, et. al., 2018; Lohnes Watulak, 2018). One study focused on teacher perceptions (Huh, & Reigeluth, 2018). Those perceptions were about self-regulated learning. Overall, the researchers assumed that teachers were underprepared for their work online and that early work was needed for initial preparation to develop essential competencies and that teachers who were allowed to make their own curriculum (and not all online teachers are in the K-12 settings) need assistance in translating the skills for the online learning context. At present, the QM Standards allow course designers to identify the learning goals for both students and instructors (see indicator 3.5) on the QM Rubric. Most of the references to instructors make it clear that the course the designer is to

stipulate the content objectives, resources, tools, and support. However, Pulham and Graham's (2018) review of literature suggests that teachers should be the ones setting the objectives for the course, modifying the materials, and finding workarounds for technologies.

Support for Students with Disabilities

Another large set of articles was dedicated to supporting students with disabilities. Out of seven articles, three focused on teacher or course designer knowledge and development (Crouse, Rice, & Mellard; Evmenova, 2018; Rice, 2018), three were about vocabulary support online (Mize, Park, & Moore, 2018; Rice & Deshler, 2018; Stetter, 2018), and one article looked at game-based technology for autistic youth (Wang, Xing, & Laffey, 2018). The final article was an empirical literature review about mobile learning in K-12 settings for students with disabilities (Xie, Basham, & Rice, 2018). These studies aligned best with QM General Standard 8: Accessibility and Usability and, sometimes, General Standard 7: Learner and Instructor Support.

The cluster of vocabulary support articles represented several different methodologies, but, interestingly, their findings were similar: (1) there are too many words required in a typical online learning course for students to effectively learn; (2) students with disabilities are not receiving adequate vocabulary support; and (3) the interventions and support that are in place so far are not working—they are not effectively serving the students (Mize, Park, & Moore, 2018; Rice & Deshler, 2018; Stetter, 2018). Although the QM Standards do address readability as an aspect of accessibility and high quality instructional materials, they do not directly address vocabulary. In strict readability terms, the idea would be to reduce difficult vocabulary to lower the reading level. However, doing so would also lessen the quality of the instructional materials because the vocabulary is integral to subject matter expertise. In addition, the notion of readability is captured by external issues of font size and type as well as internal issues of word

and sentence length as well as the complexity of vocabulary and use of connectives. That nuance is not captured well in the standards at present.

The other two articles argued that students with disabilities are a growing population in online learning, but they are underserved (Wang, Xing, & Laffey, 2018; Xie, Basham, & Rice, 2018). The articles also suggested that targeted, specific support grounded in an interest in meeting the demands of the Individuals with Disabilities in Education Act (IDEA, 2004) was the most promising course of action. The current QM Standards do not acknowledge or address disability legislation (IDEA or international). To do so, would likely require some additional guidelines about accommodation during assessments and the collection of data from course performance to assist in identifying disability for Child Find purposes and to see whether individualized goals have been met.

Tool Testing and Development

Finally, seven studies focused on the development and testing of specific tools and technologies. These tools ranged from fairly new and innovative tools, such as virtual or augmented reality (Cakmak & Sirakaya, 2018; O'Connor, 2018), game-based learning (Wang, Xing, & Laffey, 2018), and educational reconstruction (Kersting, Henriksen, Bøe, & Angell, 2018) to technologies with longer histories such as web conferences (Downing & Dyment, 2018; Rehn, Maor, McConney, 2018), and project-based learning (Lokey-Vega, Williamson, & Bondeson, 2018). Each of these articles has a tone of enthusiasm and promise for the use of these tools. Further, each demonstrated that their respective tool has the potential for impacting student learning when applied thoughtfully within a learning context—whether that context was a virtual school, a virtual program in a traditional school, or a teacher preparation program.

Articles Outside of the QM Rubric

Two articles did not fit well into the standards. One of these articles was a replication study to determine whether a survey about self-regulation in K-12 online learning was viable if translated to Chinese (Fung, Yuen, & Yuen, 2018). The findings indicated the survey was valid in these circumstances. If there is something to be learned from this study with reference to the QM Standards it is that there are tools for soliciting feedback from students about the work habits that might be helpful to course design.

As mentioned above, the current standards might benefit from stronger links between teachers and designers. Bongey and Graziano (2018) conducted a survey of teacher preparation programs to determine whether and to what extent teachers were prepared to teach online. They found that preparation opportunities were minimal. This article did not fit well into the QM Standards because it was focused on instructors, which are not as well represented. However, understanding this landscape might bring attention to the need for the standards to direct more attention to instructor support since teachers are entering online teaching without such preparation. Nevertheless, "teacher-proofing" the courses by leaving teachers little to no responsibilities outside grading fails to align with what Pulham and Graham (2018) indicate are useful skills for online teachers. There might also be implications with attrition if teachers are more likely to stay teaching online if they have course materials and tools in their hands that they understand and know how to use.

Discussion and Suggestions for Future Work

The articles collected during this timeframe represented a wide range of methodologies and approaches. This should be regarded as a strength. It is also worth noting that according to the user designations on these studies in the QM database, each study represented at least one

standard. However, it is also evident that some standards are being addressed more than others. In particular, Standards 1 and 2 might benefit from additional research.

Also worth noting is the heavy emphasis on teacher knowledge, with only two articles focused on course designers. While the work preparing and supporting teachers is vital, it would also be helpful to have research in online learning focused on other individuals that work with students. In addition to more work on course designers and the course design process, administrators, counselors, and even parents could be represented in future research.

In addition, it was useful to have three studies about vocabulary support and the ways in which such support is inadequate for students with disabilities and other reading difficulties. Course designers and teachers should take note of this as a neglected area in instructional materials and accessibility. Of course, more work in this area would be useful, as it would be in other areas of literacy such as comprehension, digital composition (we are talking online learning after all), and early literacy learning in online settings.

Finally, these studies teach us that tools in and of themselves do not bear the responsibility for helping students learn. Instead, tools can be leveraged in positive ways to ensure that students' needs are being met. This is especially important for diverse learners, and this notion of diversity can extend from students with disabilities to other populations as well. For example, there are learners who speak languages other than English, who come from a range of socioeconomic classes, and who represent a number of cultural, ethnic, and racial groups. However, tools and materials are not all students need to learn, particularly students with disabilities. The standards might benefit from additional emphasis or reference to IDEA specifically or at least generally to disability plans and standards. Also, there are others including teachers, parents, and other on-site mentors supporting the children. The standards should reflect

the need for collaboration between these groups alongside designers. This additional attention might include greater emphasis on feedback systems.

Table 5

Review Results in Alphabetical Order with Standards and Summary

Reference	**Standards**	**Summary**
Adelstein, D., & Barbour, M. (2018). Redesigning the iNACOL standards for K-12 online course design. *Journal of Online Learning Research, 4*(3), 233-261.	3, 4, 5	This research created a revised K-12 online course design rubric based off the iNACOL National Standards for Quality Online Courses. This revised rubric was field tested against current K-12 online standards. While the overall results of the revised rubric did not meet the reliability threshold for percentages, specific elements did.
Al-Harthi, A. S. A., Campbell, C., & Karimi, A. (2018). Teachers' cloud-based learning designs: The development of a guiding rubric using the TPACK framework. *Computers in the Schools, 35*(2), 134-151.	4	This study aimed to develop, validate, and test rubrics for evaluating the cloud-based learning designs (CBLD) that were developed by teachers using virtual learning environments. The rubric was developed using the technological pedagogical content knowledge (TPACK) framework, with rubric development including content and expert validation of its items and levels. The result of this research was a validated rubric for teachers' cloud-based learning designs.
Cakmak, E. K., & Sirakaya, M. (2018). The effect of augmented reality use on achievement, misconception and course engagement. *Contemporary Educational Technology, 9*(3), 297-314.	6	The aim of this study is to determine the effect of augmented reality use on students' achievement, misconception and course engagement. Augmented reality technology increased the achievement level of students and eliminated their misconceptions. However, the study also found that augmented reality technology did not affect the course engagement of students.
Crouse, T., Rice, M., & Mellard, D. (2018). Learning to serve students with disabilities online: Teachers' perspectives. *Journal of Online Learning Research, 4*(2), 123-145.	7	This study explored descriptions of practice from fully online teachers in their instruction of students with disabilities. Findings were divided into two major concepts: (1) online teachers' learned practices about working with students with disabilities, and (2) teachers' sources of knowledge about "good" teaching practices when working with students with disabilities.
Downing, J., & Dyment, J. E. (2018). Online initial teacher education students'	3, 4, 6	This article describes the usefulness of weekly synchronous web conferences integrated in online teacher preparation courses in a regional

perceptions of using web conferences to support professional conversations. *Australian Journal of Teacher Education, 43*(4), 68-91.		university in Australia and the ways to connect web conferencing to teacher preparation standards. Findings revealed that participants perceived that web conferences prompted a deeper level of engagement, satisfaction, and sense of achievement than alternative activities, including face-to-face tutorials.
Evmenova, A. (2018). Preparing teachers to use Universal Design for Learning to support diverse learners. *Journal of Online Learning Research, 4(*2), 147-171.	4, 6	Universal Design for Learning (UDL) is a scientifically based framework for developing curricula that support diverse learners. The thematic analysis was conducted to explore the most common ways to provide UDL principles. Proposed strategies included a combination of no technology to high technology tools. While all the participants recognized the value of UDL and were eager to implement it in their learning environments, they also reflected on the need for more professional development in schools.
Griffin, C. C., Dana, N. F., Pape, S. J., Algina, J., Bae, J., Prosser, S. K., & League, M. B. (2018). Prime online: Exploring teacher professional development for creating inclusive elementary mathematics classrooms. *Teacher Education and Special Education, 41*(2), 121-139.	8	The study examined Prime Online, a year-long, online, PD program with support from an Institute of Education Sciences (IES) Goal 2 Development and Innovation research grant. In this article, the development process and an exploratory study are discussed. Findings suggest that Prime Online positively influenced general and special education teachers' reported beliefs and practices and their learning of mathematics content for teaching and generated high teacher satisfaction ratings. No difference in the performance of students with disabilities on a state accountability measure of mathematics was found.
Huh, Y., & Reigeluth, C. M. (2018). Online K-12 teachers' perceptions and practices of supporting self-regulated learning. *Journal of Educational Computing Research, 55*(8), 1129-1153.	5	Survey responses of 112 teachers who were teaching at K-12 online schools in the United States revealed that they perceived the importance of both their students' SRL and their responsibility for teaching SRL to their students. However, the survey also showed that their practices for supporting SRL had a narrow focus concentrating on conventional teaching, which may have prevented their students from developing the full range of SRL abilities.
Kersting, M., Henriksen, E. K., Bøe, M. V., & Angell, C. (2018). General relativity in upper secondary school:	4, 5	Employing the model of educational reconstruction, researchers present a collaborative online learning environment that was introduced to final year students (18–19

Design and evaluation of an online learning environment using the model of educational reconstruction. *Physical Review Physics Education Research, 14,* 1-18.		years old) in six Norwegian upper secondary physics classrooms. Design-based research methods guided the development of the learning resources, which were based on a sociocultural view of learning and a historical-philosophical approach to teaching general relativity. The results indicate that upper secondary students can obtain a qualitative understanding of general relativity when provided with appropriately designed learning resources and sufficient scaffolding of learning through interaction with teacher and peers.
Lohnes Watulak, S. (2018). Making space for preservice teacher agency through connected learning in preservice educational technology courses. *Journal of Digital Learning in Teacher Education, 34*(3), 166-178.	3, 5	This study examined two stand-alone educational technology courses that used the connected learning design framework to reimagine a digital storytelling unit as an authentic, production-centered task scenario with opportunities for peer support, social connection, shared expertise, and collaboration. Results suggest that the connected learning activity moved beyond functional skills in ways that opened up a space for preservice teacher agency through student choice, experimentation, and peer support.
Lokey-Vega, A., Williamson, J., & Bondeson, K. (2018). A lesson structure and an instructional design model for Project-based online learning. *Journal of Online Learning Research, 4*(3), 327-345.	5	The researchers of this study employed a design and development research method to co-develop two instructional design models for creating project-based online learning (PBOL): the PBOL Lesson Structure and the PBOL Instructional Design Model based online lessons for K-12 learners.
Mize, M. K., Park, Y., & Moore, T. (2018). Computer-assisted vocabulary instruction for students with disabilities: Evidence from an effect size analysis of single-subject experimental design studies. *Journal of Computer Assisted Learning, 34*(6), 641-651.	8	The study was combined with effectiveness-of-computer-assisted-instruction (CAI) studies aiming to increase vocabulary for students with disabilities. An extensive search process with inclusion and exclusion criteria yielded a total of 13 single-subject design studies. Effect sizes were calculated using a percentage of nonoverlapping data (PND). Instructional features (e.g., visual supports, auditory supports, font/color selection, and corrective and interactive feedback) from the studies that examined effective instructional design features of CAI were also analyzed. Results indicated (a) the highest PND mean was for secondary school-aged learners with disabilities; (b) both tablet-

		assisted instruction and non-tablet-assisted instruction produced high PND (i.e., highly effective); and (c) although the majority of selected studies included visual and auditory supports in CAI for vocabulary, no studies provided opportunities for customization (e.g., student selection of colors and fonts).
O'Connor, E. A. (2018). Developing community and building knowledge online using a virtual reality environment and student-created videos. *Journal of Educational Technology Systems, 46(*3), 343-362.	7	This study examined several technology-communication venues for evidence of student interpersonal communications and emerging content knowledge concluding with ways these communication tools might effectively support productive learning communities and engender professional yet "safe" and trusting environments in online and blended course environments.
Pulham, E., & Graham, C. R. (2018). Comparing K-12 online and blended teaching competencies: A literature review. *Distance Education*, *39*(3), 411-432.	4, 5, 6, 8	This study presents a synthesis of reports and research on K-12 blended teaching competencies compared with K-12 online teaching competencies. This review synthesizes eight blended teaching documents and 10 online teaching documents. Seven global themes identified in both competency domains are (1) pedagogy, (2) management, (3) assessment, (4) technology, (5) instructional design, (6) dispositions, and (7) improvement.
Pulham, E., Graham, C. R., & Short, C. R. (2018). Generic vs. modality-specific competencies for K-12 online and blended teaching. *Journal of Online Learning Research, 4*(1), 33-52.	8	This research explored selected K-12 online and blended teaching competency documents to determine which specific modalities (online, in-person, blended, or generic) the competencies address. Many competencies are still categorized as generic and are not specific enough to denote a particular context. Authors provide recommendations for pre-service teacher education and indicate needs for further research in K-12 online and blended teaching.
Rehn, N., Maor, D., & McConney, A. (2018). The specific skills required of teachers who deliver K-12 distance education courses by synchronous videoconference: Implications for training and professional development. *Technology, Pedagogy & Education, 27*(4), 417–429.	5, 6	The purpose of this research was to identify the specific skills required of videoconference teachers who teach K–12 distance education courses. Researchers found that teachers are largely under-prepared with strategies to project presence, develop relationships, foster interaction, manage the course and teach content across a distance when the screen is the main tool of connection.

Rice, M. F. (2018). Supporting literacy with accessibility: Virtual school course designers' planning for students with disabilities. *Online Learning, 22*(4), 161-179.	1, 2, 4, 8	This study described qualitative research that sought to uncover strategies course designers used to meet accessibility standards and promote literacies online for students with disabilities. Strategies included: (1) composing clear articulations of learning objectives, (2) promoting personalized and contextualized learning, and (3) planning for visual and audio representation of concepts. Course designers displayed emerging understandings of accessibility but were less adept at addressing the interplay between literacies that promote access and accessibility features that promote literacies.
Rice, M. F., & Deshler, D. D. (2018). Too many words, too little support: Vocabulary instruction in online earth science courses. *International Journal of Web-Based Learning and Teaching Technologies, 13*(2), 46-61.	4, 8	The purpose of this research was to determine if what was known about strategies for supporting vocabulary was being applied to online learning coursework. A content analysis of types of vocabulary and types of support strategies was performed on science courses from three online course vendors. The results of this study indicated a need for online course vendors to pay more explicit attention to the types of words supported and the strategies they use to do so.
Stetter, M. (2018). The use of technology to assist school-aged students with high incidence special needs in reading. *Education Sciences, 8*(2), 61-71.	6, 8	This paper delineates some of the ways students with high incidence special needs are currently being served with technology in the United States in K–12 to learn skills or accomplish tasks related to reading. Categories examined were read-aloud tools, computer applications, traditional instructional methods that utilized technology, and online instructional environments. The categories examined in online instructional environments include the prevalence of students with special needs; how Individual Education Plan requirements, such as accommodations and modifications, are being addressed; parental participation; and concerns in the online environments.
Wang, X., Xing, W., & Laffey, J. M. (2018). Autistic youth in 3D game-based collaborative virtual learning: Associating avatar interaction patterns with embodied social presence. *British Journal of*	5	This study examined interaction patterns for learning social skills by autistic youth in a 3D game-based collaborative virtual learning environment (CVLE). The findings of this study (1) shed light on the link between social interactions and embodied social presence and (2) provide a deeper understanding of how the unique spatial and visual characteristics of 3D

Educational Technology, 49(4), 742-760.		CVLE and the design of game activities may transform collaborative learning, especially for autistic youth.
Xie, J., Basham, J. D., Marino, M. T., & Rice, M. F. (2018). Reviewing research on mobile learning in K–12 educational settings: Implications for students with disabilities. *Journal of Special Education Technology, 33*(1), 27-39.	6, 8	This study used a synthesis approach to reviewing literature published on M-learning for students with and without disabilities in formal and informal K-12 educational settings. It provides a comprehensive mapping of 47 studies from 2007 to 2016. The current review revealed that (a) most studies focused on the effectiveness of M-learning on teaching and learning, (b) mixed methods and experimental studies were the most popular methodologies, and, most importantly, (c) research outcomes were generally positive about the potential of M-learning to support the needs of students with disabilities in inclusive settings.

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