Online learning currently reaches millions of K-12 learners and its annual growth has been exponential. Industry has projected that this growth will likely continue and has the potential to lead to dramatic changes in the educational landscape. While online learning appears to hold great promise, civil rights legislation and policies—and their application—in online learning, as they pertain to students with disabilities, have been the subject of much less research than is necessary for appropriate policy planning and decision making. Researchers urgently need to develop shared understandings about how online learning affects students with disabilities as they participate in online learning environments, move through their coursework, and transition back to the brick-and-mortar classrooms (or out of school settings in general). Research that claims to focus on students with disabilities in online learning environments should be designed and carried out with particular attention to educational and social outcomes. The Center on Online Learning and Students with Disabilities (COLSD) conducts research in alignment with these goals.

COLSD, a cooperative agreement among the University of Kansas, the Center for Applied Special Technologies (CAST), and the National Association of State Directors of Special Education (NASDSE), is focused on four main goals:

1. To identify and verify trends and issues related to the participation of students with disabilities in K-12 online learning in a range of forms and contexts, such as full or part time, fully online schools, blended or hybrid instruction consisting of both traditional and online instruction, and single online courses;
2. To identify and describe major potential positive outcomes and barriers to participation in online learning for students with disabilities;
3. To identify and develop promising approaches for increasing the accessibility and positive learning outcomes of online learning for students with disabilities; and
4. To test the feasibility, usability, and potential effectiveness of as many of these approaches as would be practical.

To meet the first two goals, COLSD has conducted a number of activities designed to develop understandings about the general status of students with disabilities in online learning. Exploratory research activities included case studies of two fully online schools; several national surveys of purposefully sampled parents, students, teachers, and district and state administrators; interviews with members of individualized education program (IEP) teams; and a systematic review of one state’s student participation, retention, and completion data. COLSD
is making an additional effort to describe the landscape of online learning for students with disabilities through a series of forums with different stakeholder groups to obtain an in-depth view, from different perspectives, of the issues and concerns with students with disabilities in online learning. The first forum was held with state directors (or a designee) of special education to obtain the state policy perspective. The second forum was conducted with virtual school district superintendents and other top-level district administrators to obtain the practitioners’ perspective. Findings from these forums indicated that views from industry vendors were important, therefore, the third forum was conducted with vendors who provide platforms or resources for use in online settings, or support fully online or blended environments with courses and instructors. The responses gained from the vendors are the topic of this paper.

Forum Participants

This third forum was held with online instructional vendor providers in a face-to-face gathering August 11-12, 2015. Descriptions of the vendors and participant responsibilities appear below. A list of participants (Appendix A) and the forum agenda (Appendix B) are also included in this report. The participating vendors were chosen because they: (1) have status as an organization with a national presence; (2) have been involved in K-12 teaching and learning support strategies, research, and product development in online learning environments for at least 10 years; (3) represent different segments of online learning (e.g., supplemental instruction, fully online programs, and learner management systems) and; (4) provide a variety of supports and products to states, districts, and schools (public and charter) engaged in fully online and blended learning settings. Although the experiences and information garnered from the participants do not represent all vendors in the industry, they do provide an informed sample.

The first vendor, Agilix Labs, founded in 2000, included two administrator participants, the Vice President (VP) of Innovation and VP for Strategic Partnerships. Agilix provides support for personalized online learning through Buzz, a customizable platform, and offers BrainHoney!, a learning management system (LMS). The VP for Innovation examines innovative industry practices to determine how to support and promote them and how to use existing technology for effective innovations to improve teaching and learning outcomes. The work of the VP for Strategic Partnerships includes helping interpret accessibility requirements with such entities as state technology directors, Council of Chief State School Officers, and other industry vendors.

The Senior Director for Student Services represented the second vendor, Connections Education, which has been supporting online schools since 2002. Connections Education is an accredited provider of virtual education in charter and blended schools to K-12 students. As of the 2015-2016 school year, Connections Education supports charter schools in 26 states and seven blended schools in Indiana, Michigan, and Ohio by offering courses, LMS, and instructors as needed. The Senior Director supports fully online schools in which they serve about 6,000 students with a variety of disabilities such as learning disabilities, emotional and behavioral disabilities, and cognitive, motor, and sensory disabilities.
The third vendor, D2L Corporation, founded in 1999, designated the Product Design Manager as the forum participant. D2L offers Brightspace, a LMS, to its K-12 and higher education clients that represent statewide consortia to individual schools. The Product Design Manager’s focus includes improving technological accessibility, resulting in two gold level awards (2010 and 2011) from the National Federation of the Blind Nonvisual Accessibility, a leading advocate for Internet access by blind Americans. The Product Design Manager is now increasing focus on personal and classroom accommodations using the Universal Design for Learning framework.

The Director of Research from Edgenuity Inc., a 16-year vendor, was the fourth participant in the forum. Edgenuity creates content in the form of secondary level core, elective, and Career and Technology Education courses. Edgenuity offers supplemental instruction, courses for credit recovery, and is beginning to offer Tier 2 type interventions. The Director of Research conducts studies with districts partnering with Edgenuity to determine the accessibility and effectiveness of the courses and how to improve the course features to impact student learning.

Knovation, helping districts meet the needs of diverse learners for 15 years, sent their Chief Academic Officer (CAO) to participate in the forum. Knovation offers solutions and services centered on its collection of over 360,000 professionally-evaluated, standards-aligned digital learning resources. Knovation’s products include netTrekker (find and share digital resources from its collection) and icurio (use digital resources from its collection to design and deliver digital lessons). The CAO works with industry organizations to research and share ideas supporting online learning and has formed a volunteer workgroup to advance UDL with vendors as they create or curate products to support online learning.

The sixth and final vendor Texthelp, founded in 1996, sent their Vice President of Professional Solutions to participate. Texthelp began by supporting reading and writing for people with communication and physical disability issues and are expanding their work to support all learners—including English language learners—through their literacy software. The VP licenses Texthelp software to publishers and large software developers and ensures their software can be accessed on any device, on any platform, so the software can be integrated into mainstream technology for classroom and home use for all learners. Most of their work supports districts and K-12 schools (90%), but they also support individuals, higher education, and government agencies with youth and adults struggling with reading, writing, and communicating.

Forum Topics
COLSD staff reviewed previous literature, revisited findings from previous research activities (e.g., case studies, surveys, and interviews), and evaluated responses from the first two forums to determine the topics for this third forum. As with the previous forums, the population under consideration consisted of students with disabilities. Therefore, the responses reported are always in the context of meeting the needs of students with disabilities in online learning environments. The 10 topics covered at this forum included:
1. Enrollment, persistence, progress, and achievement
2. Parents’ preparation and involvement in their child’s online experience
3. IDEA principles in the online environment (e.g., free and appropriate public education, least restrictive environment, due process protections)
4. Effectiveness of teacher preparation in the blended and online learning environment and promising (or negative) practices that facilitate (or negate) professional development
5. Schools and vendors as data collectors and users; effective and efficient access, sharing, integration, and instructional usage of student usage data (e.g. performance scores, clickstream, pages accessed, etc.)
6. Addressing privacy concerns: Vendor access and use of school and student information
7. Integration of universal design for learning (UDL) into courses (e.g. options for how information is presented, the ways in which students can demonstrate mastery, supports for engagement)
8. Instructional practices: Integration of optimal evidence-based practices
9. Availability of students’ strategy instruction in online environments (e.g. selection, monitoring prompts for strategy use that support student learning as in reading comprehension or memory strategies)
10. Supervision for online learning in general education and, in particular, for supervision in special education

Prior to the meeting, participants received a packet of materials including the agenda (see Appendix B) and a list of the topics and questions to be considered. The forum began with introductions and a discussion of the importance of considering students with disabilities in the context of online learning. Each vendor then responded to a set of questions about the selected 10 topics. The format of the meeting was framed as a conversation in which participants were encouraged to elaborate, explain, and engage in uptake with one another’s comments. Representatives from COLSD moderated the discussions to provide all participants with comparable opportunities to share insights about each topic. Participants responded to three questions (see below) for all 10 topics, and an additional 2-5 questions relevant to each particular topic:

1. How is your organization currently addressing this topic?
2. What is working well for you on this topic?
3. What is the top challenge you face and the direction you see your organization taking on this topic?

The discussion questions serve as the headings in the following text.

Vendors as Data Collectors and Users

This fifth vendor forum topic summarizes the vendors’ perceptions of themselves as data collectors and users. The key issues with student data from online environments include: having enough time to analyze and interpret the extensive student data; determining the appropriate data that are useful for different purposes; and being compliant with data privacy and access. In the area of special education, the Center found that data frequently were not
considered when determining appropriateness of an online environment for student with disabilities (Burdette, Greer, & Woods, 2014; Greer & Deshler, 2014). For example, appropriateness would include the students’ ability to interact with the computer programs, the match of the curricular content to the students’ IEP goals, and allowance for peer interactions that support social skill development. Also the Center has not been able to gather substantial data to determine specific online learning programs’ outcomes for students with disabilities (Deshler, Rice, and Greer, 2014). The learner outcome data were generally not informative about determining the program’s effectiveness for subgroups of students (e.g., students with disabilities, students learning English as a second language).

State Education Directors of Special Education, in another Center forum reported that they do not currently collect data about the types of support that are successful in helping students with disabilities achieve in online settings (Burdette, Franklin, East, & Mellard, 2015). Most states’ fully online schools are not able to report if a student has been identified with a disability because such data is mistakenly not shared with the online school staff out of privacy concerns. These forum participants indicated that the focus for data usage in their states is geared toward general education curricular decisions, but they are looking at focusing teachers’ professional development on incorporating individual students’ data into curricular and instructional decisions. These participants also indicated that they are moving to integrate data systems that will connect student demographic and outcome data to particular features of online programs.

The virtual school superintendents and administrators also discussed data usage in a Center forum (Franklin, East, & Mellard, 2015). These participants said they put resource development into creating user-friendly systems so student learning and performance data would be used for decision-making. Their conversation covered the value of detailed data to personalize instruction. However, challenges still exist to integrating student information systems with special education databases, so many teachers manually integrate data from various systems when they write or review IEPs. Much work remains unfinished in terms of standardized or strategic data collection and sharing across states or even within states and their school districts and schools. This forum discussion focused on many of these issues and describing current directions.

How important is this topic to your organization?

Agreement was overwhelming that this topic is a top priority to all of the vendors in the forum. They rely on user and trend data to inform their product design or revisions to their systems. Vendors regularly track data to understand how successful students used product features so they can improve their courses or approaches. They often counsel school districts on how to use data to drive instruction because they believe effective instruction is student-centered. Finally, they discussed the importance of data privacy and meeting all regulations around this sensitive topic.
What is working well for your organization on this topic?

All vendors discussed the need to collect data regularly to improve their products and systems. One vendor talked about taking a user-centric focus, tracking user behaviors, and following IMS Global Learning Consortium standards (https://www.imsglobal.org/specifications.html) that include such topics as accessibility, course planning and scheduling, and learning information systems. The IMS global Learning Consortium is a nonprofit member organization of higher education institutions, corporate, government and K-12 entities. Vendors believe the work of IMS Global is important to the industry because the organization is developing standards to help vendors know how to share data effectively within privacy regulations and increase interoperability among platforms. Two vendors discussed tracking local, state, regional, and national online course or school data to get a sense of trends in course usage, figure out what is unique, and determine course features that contribute to student learning. These sorts of data help vendors direct their engineering efforts.

One vendor discussed working with a consortium of school networks to develop policies and practices around sharing data. They use a rubric to help them evaluate their progress on efforts in storing, protecting, and sharing data and how to improve their policies and practices. Vendors are aware of the sensitive nature in capturing or accumulating student data and work to resolve this tension. Another vendor emphasized the importance of working with state departments of education to know current state legislation in order to build regulations into the specifications of any LMS or courses they provide.

The vendors discussed a final challenge – that of sharing data across multiple platforms. Each vendor has their own platform and their own model, but the industry needs interoperability because students often use more than one vendor for their online learning. Therefore, it would be helpful if school districts or fully online schools had access to data on their students across vendors. There is no interoperability practice between vendors and currently there are no standards for secure access across platforms.

What are the challenges you encounter about data access, sharing or interpretation?

Vendors discussed many challenges around data access, sharing, and privacy rights. One vendor stated, that even though extensive student data exist, the data might not be readily extractable. This vendor also said if a vendor wants course usage data to determine successful course features, the data should include the content presented, context of instruction, and student learning strengths and weaknesses; and if any of these elements are missing the vendor cannot draw strong conclusions. However, to add any missing data field to the existing LMS to collect more comprehensive data can be expensive because of the ripple effect to the other existing data fields. That is, the data fields are often so interconnected through calculations that changes in one data field must be tracked across other fields.

Another vendor discussed the concern of complying with regulations around personally identifiable information alongside the need for the school district to have precise data to make informed instructional decisions. Vendors believe that a definite balance must be maintained between data privacy and reporting on product usage. If school district security policies are
unclear vendors feel challenged to know if they are in compliance. One vendor suggested school districts and vendors use a common agreement template to be clear about privacy protocols.

The vendor that provides fully online schools discussed the challenge of using state assessment data to compare student proficiency among traditional and online schools. The state test results are often not available for timely use in instructional decision-making. This vendor also discussed the difficulty in defining “engaged” students in online environments. Student engagement is often viewed as on task behavior but as programs become more sophisticated, the data suggest that engagement is more nuanced. Engagement is more than just making responses within specified time intervals. Patterns of responses are viewed as more informative of student engagement. There seem to be three patterns of responses of online students: those who are truant; compliant; and engaged. But it is currently unknown what data is useful in determining the differences among these patterns to inform course content and instruction.

What are the challenges you encounter about the types of data school districts want?

One vendor discussed that they have access to performance, progress, and assessment data for their courses. However, school districts are now asking more nuanced questions. They want to know such things as how a program impacted student engagement and confidence, what are attributes of successful online students, and what are the contextual features that contribute to student learning or impact teacher practice? These questions are much more complex and a challenge to answer.

The vendors that offer LMS services have challenges with what some school districts request. If a school district has an existing database, the first challenge for a new vendor that is brought onboard is to determine how to integrate the existing system with the new vendor’s products. Should the vendor retrofit the old database so it is compliant with current legal requirements (which is expensive) or create a compliant database to house data moving forward? Often school districts ask vendors to house the academic performance index (API) data from their state assessments. However, this creates concerns about vendor liability because of FERPA and personally identifiable information regulations that could inhibit vendors’ serviceability.

Finally another vendor that offers an LMS platform discussed school districts asking for students’ online course usage data (e.g., percent of assignments completed; login minutes; assignment completion accuracy) before engagement data because such data are easier to track. If a school district wants engagement data, the task is more difficult because of the challenges in specifying, collecting and interpreting the correct data. In a traditional school assessing student engagement might seem easier since the determination is whether a student “looks” engaged, but how does the vendor make that kind of observation in an online setting?
What would facilitate better data usage by educators?

All vendors agreed that offering training in using data and developing ways to visualize data would help educators embrace data usage for decision-making, including training on data security. Vendors noted that teachers (and students) must “own” the data so they find it useful and actively think about it. If vendors designed their systems to present data in ways that mimic teacher use, then teachers would be better able to make connections across the data useful to driving instruction. This approach would help teachers evaluate the extensive amount of data and improve the quality of data, rendering data more meaningful to the instructional process.

Data and data elements are constantly changing so continuing professional development opportunities for teachers and staff is important. The professional development is on how to use data and find ways to support staff when vendors are not there. Vendors could provide an internal metric that tracks students’ progress and sends a visual metric or graphic (e.g., green, yellow, or red face) that informs teachers on students’ progress. If students are not progressing as they should, the system could provide a set of suggested interventions (e.g. send an email to the parents, schedule a meeting with the student, create a small student group to work together) so teachers benefit from the data. One vendor is using an alert system but the system has no way to ensure that teachers use the suggested interventions or the outcomes.

Several vendors also discussed training students to use their own data to support learning. Students can learn how to use data to tell their story about strengths and areas where they need help. Vendors recommend teachers, students and parents use available data in all meetings so everyone is seeing and using the same data about how the student is learning.

Finally the discussion addressed whether and how data could be used as a predictor for learners’ progress or success or diagnostic of knowledge and skill deficits. One vendor that offers literacy support discussed how users’ patterns of interacting with text might yield useful diagnostic information. One promising area is their use of error reporting software which is showing error patterns that might be helpful to verify if a student has a disability diagnosis or IEP. This vendor is only in the beginning stages of this work and is exploring what they need to get to scale with this type of data collection. The challenge with this approach is that errors can occur for a number of reasons (e.g., lack of attention, error in response selection) that would not be meaningful and that hopefully the course software is adapting to the students’ responses so that the next lesson is appropriate to the students’ skills and knowledge.

Implications

Some implications can be drawn from the forum on vendors as data collectors and users. Definite concerns are shared about data rights, privacy, and ownership and these concerns must be considered in light of federal and state regulations. These concerns also have implications for how to securely integrate data across platforms. Another implication is the importance of organizing data in ways that make sense to educators, is streamlined or focused so it is not overwhelming, and is visually accessible so educators easily make connections to
appropriate interventions based on the students’ data. Finally, educators need continuing professional development in interpreting and using data to improve students’ outcomes.

Based on the discussion, additional consideration is recommended for research topics including:

1. How can vendors build in professional development that offers sequential “just-in-time” learning for using data to improve student outcomes, especially for students with disabilities?
2. What are effective models of integrating data across different platforms so educators have access to all relevant data for all students, but in particular for making decisions about students with IEPs?
3. How can state departments of education and school districts work with vendors to develop protocols for online learning that meet privacy, access, and security regulations?
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References


Appendix A

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OSEP AND COLSD FORUM
Vendor Related Practices and Challenges in Online Instruction for Students with Disabilities

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Appendix B

Forum Agenda
OSEP and COLSD Forum
Vendor Related Practices and Challenges
in Online Instruction for Students with Disabilities

AUGUST 11TH AND 12TH, 2015

AGENDA

NASDSE Conference Room
225 Reinekers Lane, Suite 420
Alexandria, VA 22314
703-519-3576

Tuesday, August 11th

12:00 - 12:45 Working Lunch
- Welcome: OSEP staff and Bill East
- Participant introductions: a description of your organization; the targeted audience for your products; your role in the organization
- Overview: Explanation of how we hope this discussion proceeds

12:45 - 1:45 Discussion Topic #1: Enrollment, persistence, progress and achievement for students with disabilities

1:45 - 2:00 Break

2:00 – 2:45 Discussion Topic #2: Parent preparation and involvement in their child’s online experience

2:45 - 3:30 Discussion Topic #3: IDEA principles in the online environment (e.g., FAPE, least restrictive environment, due process protections)

3:30 - 4:30 Discussion Topic #4: Effectiveness of teacher preparation in the blended and online learning environment; and promising (or negative) practices that facilitate (or negate) professional development

4:30 Wrap-up, suggestions for improving our process and preview for day two. Dinner plans?

Wednesday, August 12th

8:15 - 8:30 Review: Review of yesterday and today’s preview

8:30 - 9:30 Discussion Topic #5: Schools and vendors as data collectors and users: Effective and efficient access, sharing, integration, and
instructional usage of student usage data (e.g., performance scores, dwell time, pages accessed)

9:30-10:15  Discussion Topic #6: Addressing privacy concerns; Vendor access and use of school and student information

10:15-10:30  Break

10:30-11:15  Discussion Topic #7: Integration of universal design for learning (UDL) into courses

11:30 – 12:00  Discussion Topic #8: Instructional practices: Integration of optimal evidence-based practices

12:00 – 1:00  Working Lunch – Discussion Topic #9: Availability of students’ strategy instruction in online environments (e.g., selection, monitoring, prompts for strategy use that support student learning as in reading comprehension or memory strategies)

1:00 - 1:45  Discussion Topic #10: Supervision for online learning in general education and in particular for supervision in special education

1:45 – 2:00  Wrap up: Our next steps with this information: draft a summary; share the summary with you for accuracy and completeness; draft a report on each topic and share with you for edits regarding accuracy and completeness; and complete revisions and disseminate to you and interested parties.

Your closing comments
Reimbursement issues and our closing comments
Thank you and safe travels