



*Center on Online Learning
and Students with Disabilities*

Quarterly Report



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Center Overview

The Challenge

To date, online learning reaches millions of K-12 learners, with its continued growth inevitably leading to dramatic changes in the educational landscape. While online learning holds great promise, there is a paucity of research addressing the pedagogical implications for students with disabilities. Researchers urgently need to conduct investigations that demonstrate how online instruction should be designed and delivered to improve student outcomes.

The challenge of the Center is to address learner variability by conducting research to make online learning more accessible, engaging, and effective for students with disabilities, for whom traditional forms of education have been only moderately successful and the precipitous growth in online instruction threatens to exclude. To address these issues, the Center will assume a leadership role in conducting research and building a network of research collaborators representing a wide array of disciplines whose expertise impacts learner outcomes.

Our Mission

To research how online learning can be made more accessible, engaging, and effective for K-12 learners with disabilities by investigating approaches that address learner variability within the range of conditions under which online learning occurs.

Our Goals

- 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 (e.g., virtual schools, online courses, expository, interactive, etc.). Research topics will include accessibility and delivery of content, patterns of student participation, learning needs and supports, and emerging forms of online learning and their potential impact on accessibility and outcomes for students with disabilities.

- Identify and describe major potential positive outcomes and negative consequences of participation in online learning for students with disabilities, and analyze the available evidence on these outcomes and consequences. Positive outcomes may include a range of academic, social, career, and functional achievements associated with college- and career-readiness. Negative consequences may include reduced access to social or extra-curricular activities, a narrowed curriculum, a reduced alignment of instruction with academic standards, or the failure of instructional designs to be responsive to learner attributes.

- Identify and develop promising approaches for increasing the accessibility and potential effectiveness of online learning for students with disabilities. These approaches may involve designing accessibility and support features for online learning, providing supplementary off-line resources, individualizing online learning, identifying and addressing student learning problems as soon as possible, and training students, teachers, tutors, parents, and others involved in online learning on ways to support student learning.

- Test the feasibility, usability, and potential effectiveness (or promise) of one or more key approaches using appropriate research designs such as quasi-experimental, single-subject, qualitative, and experimental research. This research will involve actually trying the approach(es) with the intended populations in authentic settings. The research will produce detailed descriptions of the approaches and their key components, evidence that the approaches can be successfully implemented in authentic settings, and evidence of the promise of the approaches for achieving their intended outcomes for students with disabilities.

Our Activities

1. Carrying out high-quality research and development that will result in validated practices that inform the design and development of new approaches and innovations.

2. Establishing principles for the design, development, and validation of online instruction effective for all students, including K-12 learners with disabilities, via the application of learning analytics that take advantage of the inherent capabilities of online learning technologies to provide faster, more accurate, more informative assessment and progress monitoring, and impact learner outcomes.

3. Highlighting and amplifying existing resources that have been validated as promising and developing new online learning solutions that support K-12 learners with disabilities.

4. Developing a dynamic network of online learning stakeholders including but not limited to education agencies, business and industry, innovators, researchers, and parents for the purposes of validating and implementing online learning solutions that are appropriate and effective for K-12 learners with disabilities.

5. Informing stakeholders (SEAs, LEAs, developers, and others) on how to identify and implement high-quality online learning solutions that are effective for K-12 learners with disabilities.

6. Disseminating research findings and evidence-based principles for guiding the design, development, and use of online learning resources that address the needs of K-12 learners with disabilities.

July 2014

Major Activities and Accomplishments

RESEARCH STUDIES

STUDY: Social Skills

- The Center received OSEP approval on a proposal for a new study designed to determine the effects of pre-packaged video modeling plus coaching on targeted social behavior skills.
- Researchers began preparing IRB paperwork for study.

STUDY: MW1*

- The Center collaborated with officials at MW1 (a school district in the Midwest that utilizes blended learning environments in which SWDs are fully integrated) to develop a research plan for a design elements/blended learning research initiative. All parties appear to be closely-aligned with regards to scope and desired outcomes, and were able to finalize research goals, approaches, and a preliminary timeline. The study will include classroom observations of approximately 150 classrooms to identify prevailing practices for meeting the instructional, social, and behavioral needs of SWDs in blended learning environments, as well as an intervention package to test three the effectiveness of three specific learning environment design features on the performance of SWDs.

STUDY: MI2*

- Center researchers met with MI2 administration to discuss a new study to determine the feasibility and usability of both online and offline self-regulation (S-R) interventions to enhance the achievement of SWDs in blended environments.
- The existing MI2 MOU was updated to include the new S-R study.

STUDY: Audio-Supported Reading (ASR)

- Researchers began preparation of study materials preparation and site recruitment.
- Reading passages and questions for the study were entered into the UDL Curriculum Toolkit, and Toolkit technical implementation was scheduled for testing.
- The Center established a relationship with TextHELP (a provider of literacy software solutions) to enable automated tracking of words/text selected to be spoken.

STUDY: Discipline-Specific Graphic Organizers (DSGOs)

- The Center began planning an intervention study to examine the effect of discipline-specific graphic organizers on reading comprehension in online lessons.

STUDY: UDL Scan Tool

- The Center continued work on an executive summary and usage manual that will accompany the online format of the Center's UDL Scan Tool when it is released for distribution and use by the field.

STUDY: SE2* Accommodations

- Center researchers completed coding of nearly 1200 minutes of SE2 teacher interviews, and began preliminary analysis of data.

STUDY: Policy Research

- The Center continued to search for new and updated state policies regarding online learning, and updated the State Policy Guide with its findings.

STUDY: Parent Engagement

- Center researchers continued work on a paper to report findings for the parent engagement study.

EXTERNAL RESEARCH PARTNERSHIPS

VENDOR: EdTech

- Center researchers conducted the first round of onsite interviews and observations with EdTech staff members to determine how the following are enacted for SWDs: goals, curriculum, instructional methodology, IEP accommodations, support materials and technologies, collaborations, and student assessments.
- The Center coordinated with NE1 and EdTech to acquire a sample student data set for feasibility/exploratory analysis. The data sets appear to have limited cross-referencing potential and are undergoing a final review to determine to what extent, if any, they might yield helpful information on SWDs.
- Center Staff continued analysis of data from NE1 staff interviews and began outlining a paper on the findings.

VENDOR: Project Inspiration

- The Center and Project Inspiration successfully recruited a school district (GA1) willing to serve as the middle school sites for the study, and executed a letter of agreement with that district.
- Center researchers began planning for the gathering of descriptive markers of participating schools and demographics, and participation in professional development activities with instructors from the designated middle schools.
- Alternative criterion achievement measures and classroom observation measures were identified.

VENDOR: LearningCo

- The Center conducted the final seven interviews with regional special education managers from LearningCo, for a total of 12 interviews.
- The Center conducted the final 12 interviews with school-level special education managers from LearningCo, for a total of 20 interviews.

OUTPUT

CONFERENCES/PRESENTATIONS

- Center researchers conducted a session titled "Teaching and Testing Online: Patterns, Profiles, and Personalization" at the OSEP Project Directors' Conference in Washington D.C.

PUBLICATIONS

- The Center's article "Practitioners' Perceptions of Their Knowledge, Skills and Competencies in Online Teaching of Students with and without Disabilities" was published in the *Journal of the American Academy of Special Education Professionals* (JAASEP).
- The Center posted a new report, titled "Online Learning Vendor/School Contracts: What's the Substance?", on its website. The report provides a review of 19 agreements from districts in two states with six different companies. The Center examined each of the contracts and extracted a few interesting commonalities to share. The results can be found online at <http://centeronlinelearning.org/online-learning-vendor-school-contracts-whats-the-substance/>

August 2014

Major Activities and Accomplishments

RESEARCH STUDIES

STUDY: Social Skills

- The IRB application was finalized and submitted for approval.
- The Center identified three potential school district sites, and began initial drafts of applications for conducting research to be submitted for district approval.
- Preliminary work started with one site to get initial feedback on implementation and further site selection.
- Recruitment materials for districts, teachers, and parents were created.

STUDY: MW1

- The Center finalized the MOU with MW1, established a start date for the study and began mapping out study logistics.
- After working with design experts to develop an observation protocol specific to blended learning environments, the researchers field-tested the instrument in pilot schools, and made further refinements to the protocol.

STUDY: MI2

- The Center completed the identification and design of multiple measurement tools to use for baseline and ongoing assessments.
- Center researchers conducted a two-day site visit at MI2 to initiate teacher surveys and staff orientation on the intervention.

STUDY: Audio-Supported Reading (ASR)

- Researchers made preparations for live data collection, including set up of the site, creating student accounts, and QA testing.

STUDY: SE2 Accommodations

- Center researchers continued analysis of the data collected to date, including interviews, IEP, 504, medical documents, and the employee data logs kept over the course of a 2-year pilot program for part-time students with disabilities.
- Preliminary results from interviews were shared with participants for clarifications and feedback.

EXTERNAL RESEARCH PARTNERSHIPS

VENDOR: EdTech

- Center researchers completed transcription of the first round of interviews with EdTech staff and began coding the transcripts.
- The researchers began a review of the collected data and drafted a preliminary analytic framework.
- Researchers continued analysis and write-up of the NE1 data.

VENDOR: Project Inspiration

- Center researchers worked with Project Inspiration to clarify and resolve design issues for the third phase of the study.
- The team continued development of student and teacher survey instruments. The student survey will collect data on the student's motivation and satisfaction in ELA courses. The teacher survey will determine the teacher's sense of efficacy for literacy instruction and the instructional strategies they use to support SWDs in online lessons.

VENDOR: LearningCo

- Center researchers worked with LearningCo to set up the next stage of the study. The next stage will focus first on interviews with LearningCo teachers, then on aligning the results with those from the previous interviews with regional and school-level special education managers. Researchers used findings from the previous interviews to begin a draft of the teacher interview protocol.
- Center staff worked to complete the transcription and coding of previously conducted interviews with LearningCo regional and school-level special education managers.

OUTPUT

CONFERENCES/PRESENTATIONS

- Center staff began preparations for a presentation at the 2014 NASDSE Annual Conference.
- Center staff began preparations for presentations at the 2014 iNACOL Blended and Online Learning Symposium.

PUBLICATIONS

- A revised manuscript on the results of the nationwide parent survey was submitted to *Journal of Interactive Online Learning*.

September 2014

Major Activities and Accomplishments

RESEARCH STUDIES

STUDY: Social Skills

- The Center received IRB approval for the study.
- Staff development resources for teachers and students were created.
- Researchers completed protocols for virtual coaching, teacher data collection, focus group, and student observation.
- Recruitment of 10 special education teachers to assist with the study was successfully completed.

STUDY: MW1

- Center researchers developed staff development materials, and conducted an initial instructional session onsite at MW1 for district blended learning coaches to use the observation protocol. Reliability checks were conducted to ensure quality data collection.
- The district identified four schools and 14 teachers to participate in the design elements intervention. A launch meeting was held, and researchers administered baseline surveys of Inventory of Knowledge, Skills and Attitudes Toward Blended Learning and The Blended Learning Environment Survey.

STUDY: MI2

- Center researchers developed four surveys for MI2 students, and coordinated with MI2 staff & MI2T (the learner-management provider for MI2) to integrate demographic and survey response data and plan for site-wide deployment of surveys. Surveys were delivered to 32 participating teachers and approximately 8,000 students.
- MW1 and researchers began planning the next site visit and implementation of the S-R intervention.

STUDY: Audio-Supported Reading (ASR)

- Researchers completed half of the data collection with students, including the use of a software recording video of face (attention & affect), screen (cursor movement, highlighted text), and audio.
- Preliminary analysis has been completed from usage logs and clicks.

STUDY: Discipline-Specific Graphic Organizers

- The Center submitted IRB paperwork for approval.
- Center staff created an online template to mirror LearningCo's online learning environment and conducted field-testing to determine robustness.
- Researchers completed initial drafts of the lessons to be used in the three study conditions.
- Researchers identified potential participating teachers and research sites.

STUDY: Vocabulary Supports

- The Center explored ways to strategically mine existing CAST data sets to discover how the learning characteristics and patterns of SWDs relate to vocabulary acquisition and retention. Researchers began crafting a preliminary proposal for a study aimed at designing promising practices for vocabulary and concept learning in online environments.

STUDY: SE2 Accommodations

- Center researchers continued analysis of data, and began preliminary write-up of results.

STUDY: Stakeholder Forum

- The Center received OSEP approval on a proposal to host a series of topical forums with various stakeholder groups that will focus on topics consistent with the Center's conceptual framework and issues identified through Center research.
- The first forum, titled "Practices and Challenges in Online Instruction for Students with Disabilities", was scheduled for November 18-19 in Washington, D.C. The stakeholder attendees for this forum will be six or seven SEA directors of special education (or des-

ignees), and the discussions will focus on numerous issues that developers, providers, and consumers encounter in ensuring high quality online educational experiences, compliance with IDEA, and achieving positive outcomes for SWDs.

- Potential attendees were identified and researchers began drafting invitation letters and introductory materials.
- Preparation of forum materials (e.g., worksheets, data collection and management) was initiated.

EXTERNAL RESEARCH PARTNERSHIPS

VENDOR: EdTech*

- Center researchers conducted further analysis of NE1* and EdTech data, and continued work on reports for each site.
- Center researchers began drafting the interview protocol for the second round of EdTech staff interviews based on the preliminary review of Round 1 data.

VENDOR: Project Inspiration*

- Center and Project Inspiration researchers met with GA1 district personnel* to discuss study parameters

and data collection, and to finalize logistics.

- Researchers reviewed alternative classroom observation measures of teaching behaviors and student engagement that reflect a blended environment.

VENDOR: LearningCo*

- Center researchers scheduled the final group of interviews with LearningCo special education teachers and worked to finalize the interview protocol.

OUTPUT

CONFERENCES/PRESENTATIONS

- Center staff worked to finalize a presentation for the 2014 NASDSE Annual Conference.
- Center staff continued preparations for a presentation for the 2014 iNACOL Blended and Online Learning Symposium.

PUBLICATIONS

The Center submitted three articles to journals for publication:

- "K-12 online lesson alignment to the principles of Universal Design for Learning: The Khan Academy" was submitted to *Open Learning: The Journal of Open, Distance and e-Learning*.
- "Participation of Students with Disabilities in K-12 Online Instruction: The State of One State" was submitted to the *Journal of Disability Policy Studies*.
- "Parents' Role in Online Learning: A Paradigm Shift" was submitted to the *Journal of Special Education Technology (JSET)*.